File III A

TWC Reg. No. 30450

TEXAS WATER COMMISSION
Solid Waste Compliance Monitoring Inspection Report

C.O. Use Only

INSPECTION COVER SHEET

TWC Dist. 7 KC

EPA ID No. TXD043750512 COMMERCIAL WASTE Facility___ GOVT. Facility_

NAME OF COMPANY Pennwalt Corp. Lucidol Division

MAILING ADDRESS 18000 Crosby Eastgate Rd Crosby Tel. 713 328-3561

SITE LOCATION same Tel. same

COUNTY Harris TYPE OF INDUSTRY mfg organic peroxide

GENERATOR CLASSIFICATION: Industrial ✓ Municipal___

Part A Application submitted to the State ? Yes ✓ No___ To EPA ? Yes ✓ No___
Affidavit of Exclusion submitted to the State ? Yes ✓ No___
Was a written exclusion granted by TWC? Yes ✓ No___ If yes, Date 11/22/85
Will this facility require a permit ? Yes___ No ✓

CURRENT WASTE MANAGEMENT (Haz.-"H", Class I NonHaz.-"NH", Class II-"II", Class III-"III")

Generator H, NH Treatment H, NH Storage H, NH Disposal NH Transporter___

HW Exemptions (check): 90-Day Storage ✓ Other___

*SQG___:Total HW Generation Per Month: <100 kg.___ 100-1000 kg.___

H W Facilities (circle appropriate codes): (C) (T) SI WP LT LF I TT TR (WDW) O

N H Facilities (circle appropriate codes): C T (SI) WP LT (LF) I TT TR WDW O

Anomalies in the above information will be addressed by: (a) Enforcement in progress ___, (b) Central Office ___, (c) District Office ✓, (d) Owner/Operator ___.

Type of Inspection (circle): (EV) EB EC CL GW SA CD FO OT FE SQ SW

Inspector's Name and Title Clarence E Johnson

Inspection Participants Clark Paddock, Jimmy White

Date(s) of Inspection 8/5/86

Approved: [signature]
District Manager

Signed: Clarence E Johnson 8/13/86
Inspector Date

* SQG- Small quantity generator, <1000 kg. of hazardous waste per month

AUG 18 1986
AUG 19 1986
FIELD OPERATIONS

01/8

TWC Req. No. 30458

TEXAS WATER COMMISSION
Solid Waste Inspection Report
CONTENTS SHEET

COMPANY NAME Pennwalt Corp, Industrial Div.

- ✓ 1. Code Sheet (0814)
- ✓ 2. Inspection Cover Sheet
- ____ 3. Special Inspection Cover Sheet (HB.2358)
- ✓ 4. Generators Checklist
- ____ 5. Small Quantity Generator Checklist
- ✓ 6 General Facilities Checklist
- *7. Component Facility Checklists
  - ✓ A. Containers (C)
  - ✓ B. Tanks (T)
  - ✓ C. Surface Impoundments (SI)
  - ____ D. Waste Piles (WP)
  - ____ E. Land Treatment (LT)
  - ✓ F. Landfills (LF)
  - ____ G. Incinerators (I)
  - ____ H. Thermal Treatment (TT)
  - ____ I. Chemical, Physical, or Biological Treatment (TP)
  - ✓ J. Other (O) ____ CEJ ____
- ____ 8. Closure and Post-Closure Checklist ____ Closure-In-Progress Checklist
- ____ 9. Groundwater Monitoring Checklist ____
- ✓ 10. Notice of Violation (NOV) Letter
- ____ 11. Interoffice Memorandum (IOM)
- ✓ 12. Registration
- ✓ 13. Maps, Plans, Sketches
- ✓ 14. Photographs/Slides
- ____ 15. Other (describe) ____

* If a required Checklist is omitted, explain: ____

TWC Solid Waste Inspection Report

TWC Reg. No. 30458

GENERATORS CHECKLIST

Section A - Notification and Waste Determination (335.6, .62, .63)

***

1. Has generator completed an appropriate hazardous waste determination for each solid waste produced? YES ✓ NO ___

2. Check the method used for determination :

   a. Listed as a hazardous waste in 40 CFR Part 261, Subpart D. ___
   b. Process or materials knowledge. ✓
   c. Tested for characteristics as identified in 40 CFR Part 261, Subpart C (If equivalent test method is used, attach a copy). ✓

NOTE: If a hazardous determination has not been made or appears to be incorrect, the inspector should obtain a sample of the waste for analysis and explain in comments.

3. Has the facility received an EPA ID number? N/A ___ YES ✓ NO ___

4. Is notification of waste streams generated correct? YES ✓ NO ___

5. Do all waste management (TSD) methods in use agree with Registration? YES ✓ NO ___

6. Does this facility generate, treat, store, or dispose of PCB wastes? YES ___ NO ✓
   If yes, describe storage and disposition:

7. Does this facility generate **used oils** ? YES ___ NO ✓
   If yes, describe storage and disposition:

8. Does this facility generate **spent solvents** ? YES ✓ NO ___
   If yes, describe storage and disposition:
   disposed of at Rollins Environmental Services

9. Does this facility utilize **sumps** in the management of hazardous waste? If yes, describe use: YES ✓ NO ___
   Sumps used to collect wastewater to pumps to aeration basin.

*** An entry in this column indicates corrective action/response is needed

11/85

Section B - Special Conditions (335.75)

***

1. If generator has received from or transported to a **foreign** entity any hazardous waste, has the appropriate notice been filed with the EPA Regional Administrator? N/A ✓ YES ___ NO ___

2. Was the waste manifested and signed by the foreign consignee? N/A ✓ YES ___ NO ___

3. Has confirmation of waste transport out of the country been received by the generator? N/A ✓ YES ___ NO ___

Section C - Recordkeeping and Reporting (335.9, .10, .13, .70-71)

1. Does the generator maintain the following records and reports (if applicable) for the necessary three years?

a. Shipping Manifests	N/A ___	YES ✓	NO ___
b. Monthly off-site shipment summaries	N/A ___	YES ✓	NO ___
c. Monthly on-site land disposal summaries	N/A ✓	YES ___	NO ___
d. Monthly waste receipt summaries	N/A ✓	YES ___	NO ___
e. Tests and analyses	N/A ___	YES ✓	NO ___
f. Annual reports	N/A ___	YES ✓	NO ___

2. Has generator submitted **exception reports** to TWC for any original (white) copies of manifests not received back? N/A ✓ YES ___ NO ___

3. Have any spills, unauthorized discharges or threats of such discharges occurred? YES ✓ NO ___

   If yes, have they been reported?(335.4, .453) N/A ___ YES ___ NO ✓

   Have they been remedied?(335.453) Explain. N/A ___ YES ✓ NO ___

+++ IF GENERATOR DISPOSES OF WASTES ON-SITE ONLY, WRITE N/A IN SECTION D+++

Section D - Pretransport and Manifest Requirements (335.61-68)

1. Identify primary off-site disposal facilities:

Rollins Environmental Services 01429

Stauffer Chemical Co, Baytown 30208

or Manchester 31019 CCD

2. Are off-site disposal facilities permitted or operating under interim status standards? N/A ___ YES ___ NO ✓ ccs

3. Are TWC manifests properly completed? N/A ___ YES ___ NO ✓

++++ STOP & SIGN HERE IF FACILITY QUALIFIES AS A SMALL QUANTITY GENERATOR ++++

Signed: _____

Section D - (Continued)

4. Do containers used to hold waste(s) meet DOT **packaging requirements** (49 CFR Parts 173, 178, 179) before being offered for transport (if circumstances observed)? N/A___ YES✓ NO___

5. Does generator **label** and **mark** each package in accordance with 49 CFR Part 172 (if circumstances observed)? N/A___ YES✓ NO___

6. Is each container of 110 gallons or less **marked** with the required hazardous waste warning label? N/A___ YES✓ NO___

7. Does generator **placard** off-site waste shipments in accordance with DOT regulations (49 CFR Part 172, Subpart F)? (if circumstances observed) N/A___ YES✓ NO___

Section E - Accumulation Time Exemption (335.69)

Note: A facility may accumulate and store hazardous wastes in containers or tanks for up to 90 days without a permit.

1. Is the beginning **date** of Accumulation Time clearly indicated on each container? N/A___ YES✓ NO___

2. Is each container or tank clearly labeled or marked with the words "Hazardous Waste"? N/A___ YES✓ NO___

Note: Attach a Container Storage Area Checklist for each container storage area.

Note: Attach a Tanks Checklist for each tank or each group of similar tanks.

Note: If this is a T/S/D Facility, proceed to General Facilities Checklist.

TWC Req. No. 30458

Checklist Generator

COMMENTS SHEET

Section B-B Pennwalt Corporation, Crystal Division was referred for enforcement for an unreported spill on December 31, 1985, The wastewater was picked up and two leaking valves have been replaced

Section D, 002 and phosphorus, 90503c This plant is down probably for good, Rollins had problem with last waste generated, this waste will have to be pretreated before they accept

Section it again.

Waste Code 1149090 is not manifested when shipped and is not sent to an authorized site, it is disposed of at Hazelwood Texas

Section Department of Health landfill in Baytown.

TWC Reg. No. 30458

GENERAL FACILITIES CHECKLIST

Section A - General Site Information

1. Are any solid waste facilities located in the 100-year floodplain? NO ✓ YES ___ **

2. Describe land use within one mile residential, agriculture 462

3. Are there any **closed** or **abandoned** solid waste facilities? yes NO ___ YES ___

4. Has proof of **deed recordation** of all on-site solid waste Land Disposal facilities been provided to TWC? N/A ___ YES ✓ NO ___

5. Are all solid waste facilities compliant with TAC **general prohibitions**? YES ✓ NO ___

NOTE: Attach Plant Map showing site orientation, waste management facilities, and major topographic features. Each facility component checklist should have a map or sketch attached.

+++ **STOP & SIGN HERE IF THERE ARE NO RCRA FACILITIES ON-SITE** +++

Signed: _____

Section B - Personnel Training

1. Does the owner/operator maintain proper personnel training records at the facility? N/A ___ YES ✓ NO ___

2. Do personnel training records include:

   a. Job title and written job description of each position N/A ___ YES ✓ NO ___
   b. Description of type and amount of training N/A ___ YES ✓ NO ___
   c. Records of training given to facility personnel N/A ___ YES ✓ NO ___

3. Are personnel training records maintained for the appropriate length of time? N/A ___ YES ✓ NO ___

4. Is the training program adequate for response to emergencies? N/A ___ YES ✓ NO ___

*** An entry in this column indicates explanation/response is needed.

Section C - Preparedness and Prevention

1. Describe any evidence of fire, explosion, or contamination of the environment in the comments sheet.

2. Is the facility equipped with: ***

   a. Internal communication or alarm system within easy access — YES ✓ NO ___
   b. Communication system to call off-side emergency assistance — YES ✓ NO ___
   c. Fire, spill control, and decontamination equipment — YES ✓ NO ___
   d. Adequate fire-water supply (volume and pressure) — YES ✓ NO ___

3. Is the above-noted emergency equipment **regularly tested?** — YES ✓ NO ___

4. Is **aisle space** sufficient to allow unobstructed movement of personnel and equipment? — YES ✓ NO ___

5. Has the owner/operator attempted to familiarize local response authorities with the facility layout, entrances and evacuation routes, hazardous waste properties and hazards, and the work location of facility personnel? — N/A ___ YES ✓ NO ___

6. If more than one law enforcement or fire department responds, has a **primary authority** been designated? Crosby Harris County Sheriff, Fire Dept — N/A ___ YES ✓ NO ___

7. Has the owner/operator attempted to reach agreements with State emergency response teams, emergency response contractors and equipment suppliers? — N/A ___ YES ✓ NO ___

8. Has the owner/operator attempted to make arrangements with **local hospitals** to familiarize them with the hazardous wastes handled and the injuries that could result from fires, explosions, or releases from the facility? San Jacinto Methodist — N/A ___ YES ✓ NO ___

9. If State or local authorities have declined to enter into the above-noted agreements, has the owner/operator documented this? — N/A ___ YES ✓ NO ___

Section D - Contingency Plan and Emergency Procedures

1. Is a contingency plan to minimize dangers from accidental releases from hazardous waste facilities maintained on site? — YES ✓ NO ___

2. Does the contingency plan contain:

   a. Description of emergency response actions — YES ✓ NO ___
   b. Names of emergency coordinators on-site or on-call — YES ✓ NO ___
   c. Location of emergency equipment — YES ✓ NO ___
   d. Evacuation plans — YES ✓ NO ___

currently being updated.

+++ STOP & SIGN HERE IF FACILITY QUALIFIES FOR THE 90-DAY STORAGE EXEMPTION +++

Signed: [signature] (12)

Section E - Waste Analysis ***

1. Is a **written waste analysis plan** maintained at the facility? YES ✓ NO ___

2. Does the plan include the following:

   a. Detailed physical and chemical analysis of all haz. wastes YES ✓ NO ___

   b. Rationale for selection of analytical parameters YES ✓ NO ___

   c. Test methods used YES ✓ NO ___

   d. Sampling methods used YES ✓ NO ___

   e. Frequency the initial analysis will be reviewed or repeated YES ✓ NO ___

   f. Waste analyses that generators have agreed to provide N/A ✓ YES ___ NO ___

3. For disposal facilities receiving wastes from off-site, is each incoming waste shipment inspected and, if necesary, analyzed to check it against the manifest? N/A ✓ YES ___ NO ___

Section F - Security

1. Does the facility provide adequate security to minimize the possibility of unauthorized entry by persons or livestock? YES ✓ NO ___

2. Is security of the active portion of the facility provided through:

   a. 24 Hr surveillance

   or

   b. Perimeter barriers and means to control entry YES ✓ NO ___

   & Fence

3. Does facility post a "Danger-Unauthorized Personnel Keep Out" **sign** at approaches to active portions of the facility? YES ✓ NO ___

Section G - General Inspection Requirements ***

1. Is a **written inspection schedule** maintained at the facility? N/A___ YES ✓ NO___

2. Does the schedule provide for inspection of the following:

   a. Monitoring equipment YES ✓ NO___
   b. Safety and emergency equipment YES ✓ NO___
   c. Security devices YES ✓ NO___
   d. Operating and structural equipment YES ✓ NO___

3. Does the schedule identify the following **types of problems** to be looked for during the inspection:

   a. Malfunction and deterioration YES ✓ NO___
   b. Operator error YES ✓ NO___
   c. Discharge or threat of discharge YES ✓ NO___

4. Does owner/operator maintain **inspection logs** which include:

   a. Date and time of inspection YES ✓ NO___
   b. Name of inspector YES___ NO ✓
   c. Notation of observation YES ✓ NO___
   d. Date and nature of repairs and remedial action YES ✓ NO___

5. Have malfunctions or other deficiencies noted in the inspection log been corrected? N/A___ YES ✓ NO___

6. Are **inspection log records** maintained for three years? YES ✓ NO___

Section H - Requirements for Ignitable, Reactive or Incompatible Wastes

1. Does owner/operator take precautions to prevent accidental ignition or reaction of ignitable or reactive wastes? N/A___ YES ✓ NO___

2. Are smoking and open flame confined to designated smoking areas? N/A___ YES ✓ NO___

3. Are "No Smoking" signs posted in areas with ignitable or reactive wastes? N/A___ YES ✓ NO___

Section I - Manifest System, Recordkeeping and Reporting ***

1. Does owner/operator comply with manifesting requirements? N/A___ YES___ NO ✓

2. For wastes received from off-site:

   a. Is waste transported by rail or water (bulk) accompanied by a properly executed shipping papers? N/A ✓ YES___ NO___

   b. Have all shipments been consistent with the manifests? N/A ✓ YES___ NO___

   c. Are unmanifested wastes reported to TWC? N/A ✓ YES___ NO___

   d. Have manifest discrepancies been reconciled with the generator and transporter? N/A ✓ YES___ NO___

Section J Operating Record

1. Is a **written operating record** maintained at the facility? N/A___ YES ✓ NO___

2. Does the operating record reflects the following:

   a. Description and quantity of each hazardous waste received and methods and date of treatment/storage/disposal at the facility. N/A ✓ YES___ NO___

   b. Location and quantity of each hazardous waste within the facility. N/A ✓ YES___ NO___

   c. Records and results of waste analyses and trial tests N/A ✓ YES___ NO___

   d. Summary reports of all incidents requiring implementation of the Emergency Contingency Plan. N/A___ YES ✓ NO___

   e. **Closure Cost estimates** for all facilities. N/A___ YES ✓ NO___

   f. **Post-Closure cost estimates** for all disposal facilities. N/A___ YES ✓ NO___

Section K - Financial Assurance

1. Did preinspection call to Central Office confirm that facility has submitted current financial assurance documentation? N/A ✓ YES___ NO___
   ✓ 90 day exemption

2. If Yes, indicate the documents submitted and their respective values:

   ____ Sudden Liability- Amount: $_____ per occurance, $_____ annua
   ____ Non-sudden Liability- Amount: $_____ per occurance, $_____ annua

   ____ Closure Assurance- Amount: $_____
   ____ Post-Closure Assurance- Amount: $_____

   ____ Corrective Action- Amount: $_____

3. Did Financial Assurance Officer report that documentation is adequate? N/A ✓ YES___ NO___

TWC Reg. No. 30450

Checklist Facilities

COMMENTS SHEET

Section F71 Waste code number 149690 is shipped without a manifest to Haywood landfill, a Texas Department of Health Landfill, which is not authorized to receive it.

Section /

Section /

Section /

TWC Reg. No. 30058

TWC Solid Waste Inpection Report
(TAC 335.241-247)
CONTAINER STORAGE AREA CHECKLIST

Reg. Facility No. 04

Class of Wastes (H)

NOTE: TAC rules 335.241-247 apply to interim status and 90-Day Storage exempt facilities.

		***
1.	Are containers in good condition?	YES ✓ NO ___
2.	Are the containers compatible with the wastes being stored?	YES ✓ NO ___
3.	Are containers kept closed and stored in a safe manner?	YES ✓ NO ___
4.	Are containers inspected weekly for leakage and deterioration?	YES ✓ NO ___
5.	Are containers holding **ignitable** or **reactive** wastes kept at least 15 meters (50 ft.) from the facility's property line?	N/A ___ YES ✓ NO ___
6.	Are containers holding **incompatible** wastes separated by a physical barrier **or** sufficient distance?	N/A ✓ YES ___ NO ___
7.	Does the storage area have containment protection?	YES ✓ NO ___

8. Describe the Container Storage Area using comments sheet and/or photos:

Site had four drums of solvent all dated 7/10/86, should have been dated 7/10/86, 7/9/86, 7/11/86, and 7/04/86

*** An entry in this column indicates corrective action/response is needed.

10/85

TWC Reg. No. 30458

TWC Solid Waste Inspection Report

Reg. Facility No. 06

TANKS CHECKLIST

Tank 41a Tank 61 Class of Waste (H)

Use of Tank (check): Treatment C Storage C

Type of Waste: waste sulfuric acid

Type of Tank (check): Elevated ✓ On-ground ___ Below-grade ___ Underground ___

NOTE: Underground storage tanks are generally not being granted permit exemptions.

Describe Tank construction: T41a = closed titanium from old Cyo-plt, T-61 - closed steel

Section A - General Operating Requirements ***

1. Is there evidence of ruptures, leaks, corrosion, or Tank failure? NO ___ YES ✓

2. If the Tank is **uncovered:** T61 needs painting

Is there 2 ft. of freeboard, an adequate containment dike, a drainage control system, **or** a diversion structure? N/A ___ YES ✓ NO ___

Describe: Both tanks are on Concrete curbed areas.

3. If the Tank is **continuous-feed:**

Is there a feed cutoff **or** bypass to standby Tank? N/A ✓ YES ___ NO ___

Section B - Waste Analyses

1. If the Tank is used to treat or store **significantly different** wastes:

*a. Are waste analyses and trial treatment or storage tests done on these different wastes

or

Is there written, documented information on similar treatment or storage of similar wastes? N/A ✓ YES ___ NO ___

*b. Are records available of these wastes analyses in the operating record? N/A ✓ YES ___ NO ___

* Not applicable to Tanks under the 90-Day Storage Exemption.
*** An entry in this column indicates corrective action/response is needed.

Section C - Tank Inspections ***

1. Are the following items (if present) inspected at least daily:

a. Discharge control equipment (e.g. waste feed cut-off, bypass, and/or drainage system)? N/A___ YES✓ NO___

b. Monitoring equipment (pressure & temperature gauges, etc.)? N/A___ YES✓ NO___

c. Data gathered from monitoring equipment? N/A___ YES✓ NO___

d. Level of waste in each **uncovered** tank? N/A✓ YES___ NO___

2. Are the following items inspected at least weekly:

a. Construction materials of tank for corrosion and leaks? YES✓ NO___

b. Construction materials of discharge confinement structures (dikes) for erosion or leaks? YES✓ NO___

*3. Is a written **inspection schedule** kept at the site? N/A___ YES✓ NO___

*4. Are adequate Tank **inspection logs** maintained for the necessary three years? N/A___ YES✓ NO___

Section D - Special Requirements

1. Are **ignitable** and **reactive** wastes handled in accordance with the special requirements of TAC 335.266:

a. Rendered non-ignitable or non-reactive
or
Protected from sources of ignition or reaction? (N/A if the Tank is used solely for emergencies) N/A___ YES✓ NO___

b. Compliant with the National Fire Protection Association buffer zone requirements for covered tanks? N/A✓ YES___ NO___

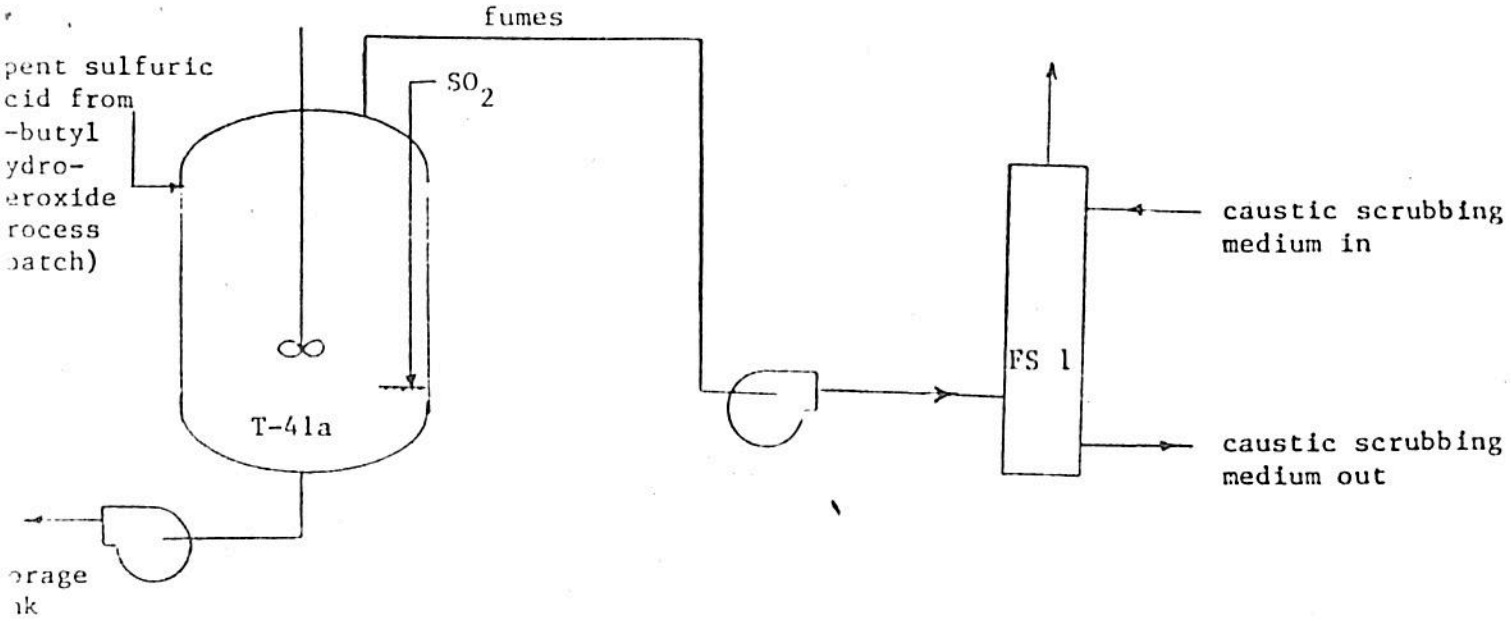
2. If the Tank is used to hold **incompatible** wastes:

Is the Tank washed prior to placement of wastes incompatible with previously stored wastes? N/A✓ YES___ NO___

Tank Capacity & Dimensions: T-61 is a 10,000 gallon tank.

Comments: T-41a is used to add sulfuric chloride to destroy trace amounts of t-butyl hydroperoxide.

ATTACHMENT 2



General process description: Spent Sulfuric Acid (H_2SO_4) in water with trace amounts of t-butyl hydroperoxide ($C_4H_{10}O_2$) is purged with Sulfur Dioxide (SO_2) to generate t-butyl alcohol ($C_4H_{10}O$) and sulfuric acid.

cyanide Wastewater Tanks inactive

TWC Solid Waste Inspection Report

TWC Reg. No. 30458

Reg. Facility No. 03

TANKS CHECKLIST

Class of Waste (H)

Use of Tank (check): Treatment ~~—~~ Storage ~~—~~

Type of Waste: agro batch plant wastewater

Type of Tank (check): Elevated ~~—~~ On-ground ___ Below-grade ___ Underground ___

NOTE: Underground storage tanks are generally not being granted permit exemptions.

Describe Tank construction: closed steel

Section A - General Operating Requirements ***

1. Is there evidence of ruptures, leaks, corrosion, or Tank failure? NA NO ___ YES ___

2. If the Tank is **uncovered:**

   Is there 2 ft. of freeboard, an adequate containment dike, a drainage control system, **or** a diversion structure? N/A ~~—~~ YES ___ NO ___

   Describe: ---

3. If the Tank is **continuous-feed:**

   Is there a feed cutoff **or** bypass to standby Tank? N/A ~~—~~ YES ___ NO ___

Section B - Waste Analyses

1. If the Tank is used to treat or store **significantly different** wastes:

   *a. Are waste analyses and trial treatment or storage tests done on these different wastes

   or

   Is there written, documented information on similar treatment or storage of similar wastes? N/A ~~—~~ YES ___ NO ___

   *b. Are records available of these wastes analyses in the operating record? N/A ~~—~~ YES ___ NO ___

* Not applicable to Tanks under the 90-Day Storage Exemption.
*** An entry in this column indicates corrective action/response is needed.

Section C - Tank Inspections ***

1. Are the following items (if present) inspected at least daily:

a. Discharge control equipment (e.g. waste feed cut-off, bypass, and/or drainage system)? N/A ✓ YES ___ NO ___

b. Monitoring equipment (pressure & temperature gauges, etc.)? N/A ✓ YES ___ NO ___

c. Data gathered from monitoring equipment? N/A ✓ YES ___ NO ___

d. Level of waste in each **uncovered** tank? N/A ✓ YES ___ NO ___

2. Are the following items inspected at least weekly:

a. Construction materials of tank for corrosion and leaks? NA YES ___ NO ___

b. Construction materials of discharge confinement structures (dikes) for erosion or leaks? NA YES ___ NO ___

*3. Is a written **inspection schedule** kept at the site? N/A ✓ YES ___ NO ___

*4. Are adequate Tank **inspection logs** maintained for the necessary three years? N/A ✓ YES ___ NO ___

Section D - Special Requirements

1. Are **ignitable** and **reactive** wastes handled in accordance with the special requirements of TAC 335.266:

a. Rendered non-ignitable or non-reactive

or

Protected from sources of ignition or reaction? N/A ✓ YES ___ NO ___
(N/A if the Tank is used solely for emergencies)

b. Compliant with the National Fire Protection Association buffer zone requirements for covered tanks? N/A ✓ YES ___ NO ___

2. If the Tank is used to hold **incompatible** wastes:

Is the Tank washed prior to placement of wastes incompatible with previously stored wastes? N/A ✓ YES ___ NO ___

Tank Capacity & Dimensions: Two 6000 gallon tanks, currently on hand.

Comments: Wastewater contained cyanides which was destroyed by alkaline chlorination.

TWC Solid Waste Inspection Report
(40 CFR Part 264 Subpart G; Part 265 Subpart G)
CLOSURE-In-PROGRESS CHECKLIST

TWC Reg. No. 30458
Reg. Facility No. 03

Note: To be completed if company is closing a RCRA facility.

1. Type of facility component: Cyanide Wastewater Tanks

2. Type of closure: Full-Facility Closure ___ Partial Closure ✓

3. Has closure plan received TWC approval or final modification? N/A ___ YES ✓ NO ___ ***
   Date of approval: 6/6/85

4. If this is a Partial Closure, is this the last facility to be closed requiring RCRA ground water monitoring? N/A ✓ YES ___ NO ___

5. If this is an interim status facility:

   a. Has an approved **public notice** of closure been published? N/A ✓ YES ___ NO ___
      Date published: _____

   b. Is a **public hearing** required? YES ___ NO ✓
      Date of hearing: _____

6. Has on-site closure work started? YES ✓ NO ___
   Date work initiated: 11/7/84
   Completed 12/20/84

7. Is closure work proceeding according to the work schedule in the approved closure plan? N/A ___ YES ✓ NO ___

8. Have 180 days elapsed since TWC approval of the closure plan? N/A ___ YES ✓ NO ___

   a. If yes, has the TWC approved a closure period of greater than 180 days? N/A ___ YES ___ NO ✓

9. Was District Office notified of sampling event when complete removal of land-disposal facility was to have been accomplished? NA YES ___ NO ___

10. Were TWC **samples** taken to verify completion of closure? YES ___ NO ✓

    NOTE: List chain-of-custody tag numbers in comments section.

11. Is the closure work **completed**? 12/20/84 YES ✓ NO ___

12. Has the closure **certification** been submitted to TWC? Attach copy or explain. N/A ___ YES ___ NO ✓

*** An entry in this column indicates corrective action/response is needed.

05/86

TWC Reg. No. 30458

Checklist Tanks

COMMENTS SHEET

Section 1 The azo batch plant was closed November 15, 1984. The cyanide wastewater tanks were cleaned at that time. Closure plan was filed on April 8, 1985 and approved on June 6, 1985.

Section 1 Closure was never certified by an engineer.

Section 1

Section 1

JDW

TEXAS DEPARTMENT OF WATER RESOURCES

1700 N. Congress Avenue
Austin, Texas

Charles E. Nemir
Executive Director

June 6, 1985

Mr. William L. Connellee
Plant Manager
Lucidol Division
Pennwalt Corporation
18000 Crosby Eastgate Road
Crosby, Texas 77532

Dear Mr. Connellee:

Re: Solid Waste Registration No. 30458
Hazardous Waste Permit Application No. 10684
Closure of Wastewater Treatment Tanks

We have reviewed your letter received May 22, 1985 which transmitted the closure plan for two cyanide wastewater treatment tanks at your facility. The closure activity described in your plan has been evaluated pursuant to Texas Administrative Code (TAC) Section 335.6. The applicable closure requirements of TAC Sections 335.211 through 335.216 and 335.265 have guided our review.

This letter constitutes interim approval by the Executive Director of the hazardous waste facility partial closure plan. This approved partial closure plan will be subject to review when the full facility closure plan is submitted pursuant to TAC Sections 335.211 through 335.216. Our evaluation indicates that your closure activities should provide reasonable assurance of effective industrial solid waste management.

For your information, it should be noted that written notification to the Executive Director of the Texas Department of Water Resources is required at least 90 days prior to conducting any closure activity at an industrial solid waste management facility.

Should you have any questions regarding this matter, please contact George P. Hartmann of the Industrial Solid Waste Section at AC512/463-8189.

Sincerely,

Charles E. Nemir
Executive Director

cc: Bill Brown, Solid Waste & Spill Response - Austin
TDWR District 13 Office - Houston

PENNWALT CORPORATION
CHEMICALS • EQUIPMENT • HEALTH PRODUCTS

LUCIDOL
18000 Crosby Eastgate Road, Crosby, Texas 77532 • (713) 328-3561

April 8, 1985

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Ray H. Austin, Head
Storage and Processing Facilities Unit
Texas Department of Water Resources
P. O. Box 13087
Capitol Station
Austin, Texas 78711

Re: Pennwalt Corporation Crosby Plant
EPA I.D. TXD043750512

Dear Mr. Austin:

The Pennwalt Lucidol Division has discontinued operations of one of three chemical manufacturing units at the Crosby plant. The AZO batch plant which produced AZO initiators for use in the plastics industry was shutdown on Nov. 15, 1984. Part of the AZO plant included two cyanide waste treatment tanks. Unreacted sodium cyanide was sent to one of the two treatment tanks for complete destruction by the method of alkaline chlorination.

The two wastewater treatment tanks were excluded from this plant's Part A application at the time of preparation because they were considered to be "Totally Enclosed Treatment Units". The tanks were totally decontaminated and removed from service on December 20, 1984.

This matter was discussed, on March 4, with Mr. Cesar Farias of the Texas Department of Water Resources (TDWR) and by Mr. Michael Dixon of our Corporate Safety, Health and Environmental Affairs Department. As agreed, we are submitting a Closure Plan for these two tanks. As indicated by Mr. Farias a revision to the Part A Permit application will not be necessary.

We would appreciate your timely review and approval of the Closure Plan. If you have any questions please contact Mr. Jimmy White at (713) 328-3561.

Sincerely,

LUCIDOL DIVISION
Pennwalt Corporation

William L. Connellee
Plant Manager

CLOSURE PLAN - Cyanide Wastewater Treatment Tanks

EPA Facility I.D. No. TXD043750512

Pennwalt Corporation - Lucidol Division Crosby Plant
18000 Crosby - Eastgate Road
Crosby, Texas 77532

I. Facility Conditions

A. General Information

1. Size of facility

   The tanks are located within the 111 acre plant.

2. Number of Tanks

   There are two treatment tanks located at this facility. Both are being removed from service.

3. Storage Facilities

   a. Type - Horizontal Fiberglass tank.
   b. Capacity - 6,000 gallons each.

4. Other Facilities On-Site

   a. Type - Two other storage facilities for hazardous waste, one storage tank and a drum pad, and one other treatment tank remain in-service.

   b. Volume/Capacity - One tank holds 10,000 gallons, the pad stores 100 drums or 5,500 gallons and the treatment tank holds 2,500 gallons.

5. Waste Characterization

   a. Chemical composition (by weight)

	Before Treatment	After Treatment
Water	.994	.91
Sodium Hydroxide	0	.03
Sodium Hypochlorite	0	.06
Sodium Cyanide	.006	Undetectable

   b. Physical State

   Liquid

   c. Combustion Temperature

   Not applicable, material is non-flammable

   d. Specific Gravity

   Approximately 1.2

TEXAS DEPARTMENT OF WATER RESOURCES
1700 N. Congress Avenue
Austin, Texas

TEXAS WATER DEVELOPMENT BOARD
Louis A. Beecherl, Jr., Chairman
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TEXAS WATER COMMISSION
Paul Hopkins, Chairman
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January 19, 1984

Mr. Jim White, Chemical Engineer
Pennwalt Corp. - Lucidol Division
P.O. Drawer 810
Crosby, Tx. 77532

Dear Mr. White,

Re: Pennwalt Corp., ISW Registration No. 30458

On November 3, 1983 Susan Ripley of this department conducted an industrial solid waste compliance inspection of your facility. The following deficiencies were noted:

1. The facility's Part A permit application needs to be updated to include cyanide wastes and the two tanks for storage and processing of those wastes. The Notice of Registration should also be updated to include the same additions. These changes are necessary to fulfill the notification requirements of Texas Administrative Code (TAC) Section 335.6(b).

2. The waste analysis plan should include analysis for cyanide as required by TAC Section 335.111; specifically, subsection (b) [illegible]

3. The cyanide treatment tanks should have signs stating "Danger - Unauthorized Personnel Keep Out" as required by TAC Section [illegible]

[illegible]

4. The facility's closure plan did not include the drum storage area, the expected year of closure, nor certification as required by TAC Sections 335.213(a)(2) and (4) and 335.216. It should be noted that the facility is required to update their closure cost estimate in March, 1984.

REPLY TO: DISTRICT 7 / 4301 CENTER STREET / DEER PARK, TEXAS 77536 / AREA CODE 713/479-5981

P. O. Box 13087 Capitol Station • Austin, Texas 78711 • Area Code 512/475-3187

Please respond to this office in writing by February 20, 1984 with your plan and schedule for correcting the above deficiencies. If you have any questions, please contact Susan Ripley at 713-479-5981.

Sincerely,

Merton J Coloton

Merton J. Coloton, P.E.
Supervisor, District 7

MJC/SR/ka

PENNWALT CORPORATION
HEALTH PRODUCTS
LUCIDOL
18000 Crosby Eastgate Road, Crosby Texas 77532 • (713) 328 3561

October 4, 1983

SW#30458

Dwight C. Russell
DISPOSAL FACILITIES UNIT, TDWR
1700 N. Congress Avenue
Austin, Texas 78711

Dear Mr. Russell:

In follow up of our conversation of October 4, 1983, I would like to submit the soil samples taken in September 1981. I believe the results would indicate that the pond in question is impermeable. Also submitted are recent bacteriological test taken of a fresh water well located roughly 350 yards from the pond.

As required by our recently issued disposal permit, we have two years to empty the pond and thus eliminate any need for ground water monitoring in the future.

I hope this information will help you and at the same time eliminate any need for drilling additional wells.

Sincerely,

LUCIDOL DIVISION
Pennwalt Corporation

Jimmy D. White
Chemical Engineer

JDW:ja

Non-commun[illegible] Water Supply Chemical Analysi[illegible]eport
Texas Department of Health - Division of Water Hygiene
1100 West 49 th Street Austin, Texas 78756

Send Report To:

Penwalt - Lucidol - Crosby

18000 Crosby - Eastgate

Crosby, TX. 77532

NAME OF WATER SUPPLY:

Penwalt - Lucidol - Crosby

Water Supply I.D. # Unassigned (1-7)

County Harris

SAMPLE TYPE	IF FROM WELL	IF SURFACE SUPPLY
☒ Distribution	Depth _____ ft.	Name of Source
☐ Plant Discharge	Age _____ yrs.	_____
☐ Raw Supply	Well No. _____	
☐ Other	REMARKS: 1 qt.	

J. H. Finney Jr.
(Signature)

Date Collected 2 / 25 / 83 (31-36)

Laboratory No. _____ (10-13) Date Received _____ (17-20) Date Reported _____ (10-13) (17-20)

1016	Calcium	____. mg/l	1028	Iron	__.__ mg/l
1031	Magnesium	____. mg/l	1032	Manganese	__.__ mg/l
1052	Sodium	____. mg/l			
1929	Carbonate	____. mg/l			
1928	Bicarbonate	____. mg/l			
1055	Sulphate	____. mg/l			
1017	Chloride	____. mg/l			
1025	Fluoride	__.__ mg/l			
1040	Nitrate (as N)	__.__ mg/l			
1050	Dissolved Solids	____. mg/l			
1931	Phenolphthalein Alkalinity as CaCO	____. mg/l			
1927	Total Alkalinity as CaCO	____. mg/l			
1915	Total Hardness as CaCO	____. mg/l			
1925	pH	__.__			
1926	Diluted Conductance Micromhos/cm.	____.			

FORM NO. H-71

WATER BACTERIOLOGY LABORATORY

HOUSTON CITY HEALTH DEPARTMENT LABORATORY

(A Regional State Health Department Laboratory)

Pennwalt/Lucidol — Name of Water System

Harris — County

Well discharge — Point of Collection

JAW — Collected by

4/11/83 — Date (Mo., Day, Yr.)

Time AM/PM

Send report to:

NAME Jimmy White

STREET 18000 Crosby-Eastgate Rd

CITY Crosby TEXAS 77532 (Zip Code)

Water System Identification Number 1011931

TYPE OF SYSTEM:
- [X] Public
- [ ] Bottled Water
- [ ] Dairy
- [ ] Swimming Pool
- [ ] School
- [ ] Individual

SAMPLE IS: (Public Systems Only)
- [ ] Distribution
- [X] Raw
- [ ] Construction
- [ ] Check
- [ ] Special

WATER SOURCE
- [ ] River
- [ ] Lake
- [X] Well

Well depth 430 ft

Chlorine residual 7

Total samples collected this date 1

Do Not Mark Below This Line

Presumptive Test — 24 hr. — 48 hr.

Lab. No. 21638

Date Received APR 12 1983

MPN Confirmed Test

MPN Completed Test

Date Reported APR 14 1983

Coliform Organisms Found [ ]

Not Found [X]

[ ] Preliminary Report [X] Final Report

Unsatisfactory:

Water of satisfactory bacteriological quality should be free of Coliform Organisms.

WATER BACTERIOLOGY

HOUSTON CITY HEALTH DEPARTMENT LAB

(A Regional State Health Department Laboratory)

Pennwalt/Lucidol — Name of Water System

Harm — Co

Water hose — Point of Collection

J. White — Collected by

8/9/83 — Date (Mo., Day, Yr.)

Send report to:

NAME Jimmy White

STREET 18000 Crosby Eastgate R

CITY Crosby Tx TEXAS 7753 (Zip Co

Water System Identification Number 2484

TYPE OF SYSTEM:
- [ ] Public
- [ ] Bottled Water
- [ ] Dairy
- [ ] Swimming Pool
- [ ] School
- [X] Individual

SAMPLE IS: (Public Systems Only)
- [ ] Distribution
- [ ] Raw
- [ ] Construction
- [ ] Check
- [ ] Special

WATER
- [ ] Lake
- [X] Well

Well depth

Chlorine residual

Total samples collected this date

Do Not Mark Below This Line

Presumptive Test — 24 hr. — 48 hr.

Lab. No. 48913

Date Received AUG 09

MPN Confirmed Test

MPN Completed Test

Date Reported AUG 11 1

Coliform Organisms Found [ ]

Not Found [X]

[ ] Preliminary Report [X] Fi

Unsatisfactory:

Water of satisfactory bacteriological quality should be free of Coliform O

HLC

SWL

SOUTHWESTERN LABORATORIES

Materials, environmental and geotechnical consultation, fundamental testing and analytical services

P. O. Box 8768 • 222 Cavalcade • Houston, Texas 77009 • 713/692-9151

September 22, 1981

Re: Report of Subsurface Exploration
Holding Ponds
Lucidol Plant
Crosby, Texas
SWL No. 81-250

Ed L. Reed & Associates, Inc.
1109 N. Big Spring
Midland, Texas 79701

Attention: Mr. Ed L. Reed, P.E.

Gentlemen:

Southwestern Laboratories has completed the subsurface exploration for the above referenced project. This work was authorized by Lucidol's Purchase Order No. C1951.

Originally two (2) soil test borings were requested by Mr. Reed; however, at the time of the exploration, Mr. Chester Smith with Lucidol requested that a third boring be drilled and associated laboratory tests performed. All borings were drilled to a depth of 40 feet below existing grade and were grouted with cement after completion of the field operations.

Laboratory tests were assigned by Mr. Reed and consisted of Atterberg Limits, specific gravities, permeabilities and chloride analysis. The Boring Plan, showing the approximate boring locations, the Logs of Borings and the Summary of Laboratory Test Data are attached.

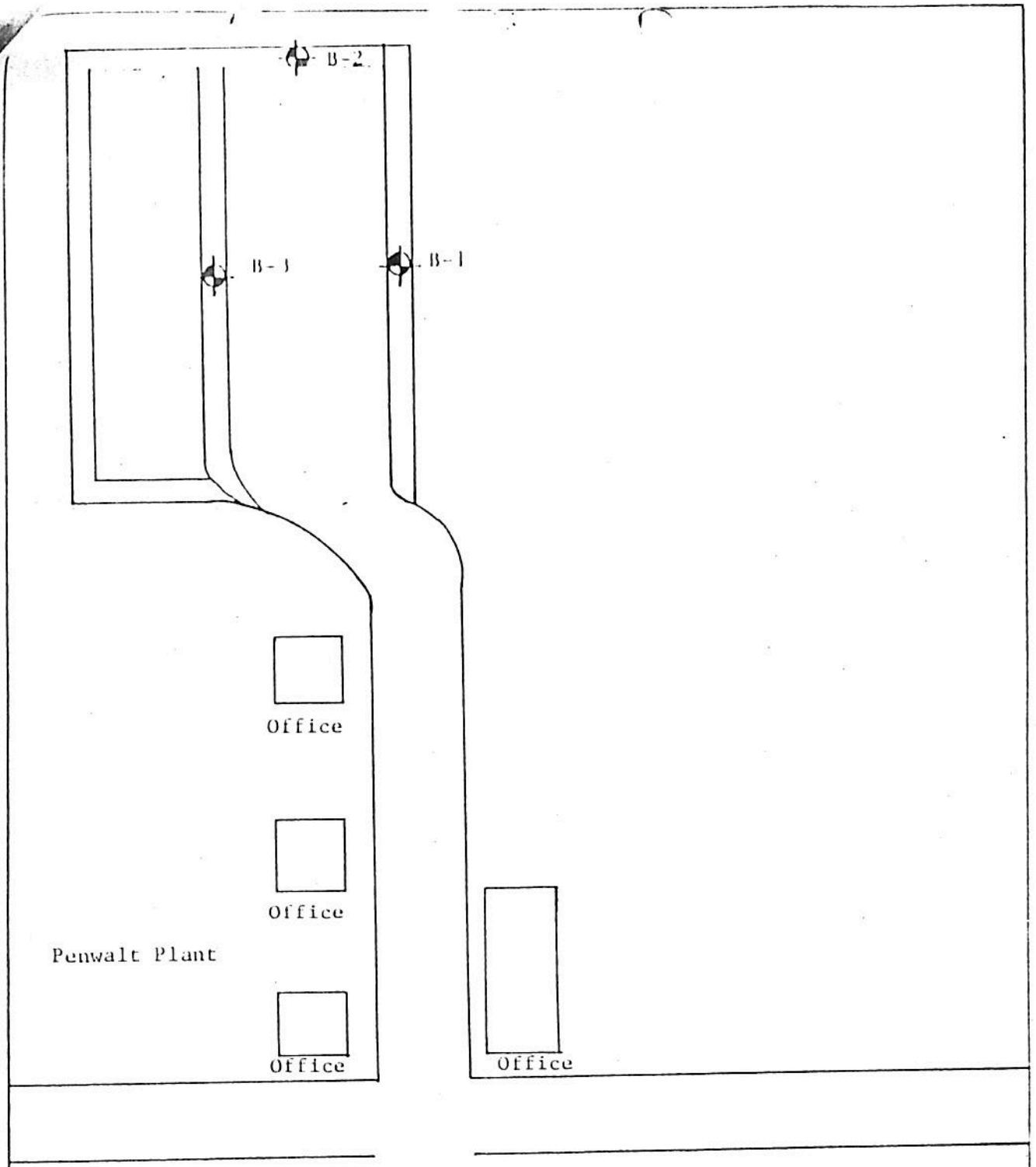
If you have any questions or if we can be of further service, please contact us.

Yours very truly,

SOUTHWESTERN LABORATORIES

John A. Gunter, P.E.
Project Manager
Geotechnical Engineering Division

cc: 3 Ed L. Reed & Assoc.
1 Lucidol - Dr. Uday Wagley



Soil Test Boring

Not to Scale

Project No. 81-250

September, 1981

BORING PLAN

Holding Ponds

Lucidol Plant

Crosby, Texas

SOUTHWESTERN LABORATORIES

SUMMARY OF LABORATORY TEST DATA

PROJECT Holding Ponds, Lucidol Plant, Crosby, Texas
Project No. 81-250
DATE 9/3/81

BORING NO	DEPTH IN FEET	TYPE OF MATERIAL	MOISTURE CONTENT %	DRY DENSITY pcf	ATTERBERG LIMITS LL	PL	PI	COMPRESSION TEST: COMPRESSION tsf	STRAIN %	LATERAL PRESSURE psi	Specific Gravity	OTHER TE: Permeabilit cm sec
1	0-2	Gray, light gray and tan clay with ferrous and calcareous nodules and limestone gravel, fill	18	114	62	20	42				2.63	
	2-4	Gray, dark gray and tan clay with calcareous nodules and sand partings	23	99								7.9 x 10^{-9}
	6-8	Dark gray silty clay with ferrous nodules and organic	27	98	48	19	29				2.64	
	8-10	Gray and light gray silty clay with silt pockets and ferrous nodules	25	97								1.6 x 10^{-8}
	12-14	Light gray and tan clay, very calcareous, slightly silty	21	112	52	19	33				2.68	
	16-18	Light gray and tan silty clay with calcareous nodules	27	99	47	17	30				2.67	
	18-20	Tan and light gray clay with calcareous nodules, slickensided	23	98								3.4 x 10^{-9}
	28-30	Tan and light gray silty clay with clay seams and pockets and calcareous seams	28	97	46	19	27				2.69	
	33-35	Tan and light gray clay, slickensided, fragmented	33	89	83	23	60				2.71	
	38-40	Tan and light gray clay with calcareous nodules, slickensided	25	102	65	22	43				2.67	

SUMMARY OF LABORATORY TEST DATA

PROJECT Holding Ponds, Lucidol Plant, Crosby, Texas
Project No. 81-250
DATE 9/3/81

BORING NO	DEPTH IN FEET	TYPE OF MATERIAL	MOISTURE CONTENT %	DRY DENSITY pcf	ATTERBERG LIMITS LL	PL	PI	COMPRESSION TEST: COMPRESSION tsf	STRAIN %	LATERAL PRESSURE psf	Specific Gravity	OTHER TESTS: Permeability cm/sec
2	2-4	Stiff gray and light gray clay with ferrous nodules, slightly silty (fill)	25	96	54	20	34				2.63	1.1 x 10^{-8}
	8-10	Stiff dark gray and gray clay with ferrous nodules and roots, slightly silty	25	95	60	19	41				2.65	8.- x 10^{-9}
	12-14	Plastic light gray and tan clay with ferrous and calcareous nodules slightly silty	27	98	54	18	36				2.65	
	18-20	Stiff tan and light gray silty clay with silt pockets, clay pockets, and calcareous nodules	23	101	43	17	26				2.63	3.- x 10^{-8}
	23-25	Stiff tan and light gray clay, slickensided, fragmented	36	91	75	22	53				2.63	
	28-30	Stiff tan and light gray clay with calcareous nodules, slickensided	25	103	71	21	50				2.76	
	33-35	Very stiff tan and light gray clay slickensided, fragmented	30	95	78	22	56				2.66	
	38-40	Stiff tan and light gray clay, slickensided	31	93	77	24	53				2.71	

SOUTHWESTERN LABORATORIES

SUMMARY OF LABORATORY TEST DATA

PROJECT Holding Ponds, Lucidol Plant, Crosby, Texas
Project No. 81-250
DATE 9/3/81

BORING NO	DEPTH IN FEET	TYPE OF MATERIAL	MOISTURE CONTENT %	DRY DENSITY pcf	ATTERBERG LIMITS LL	PL	PI	COMPRESSION TEST: COMPRESSION psf	STRAIN %	LATERAL PRESSURE psf	Specific Gravity	OTHER TEST: Permeability cm/sec
3	0-2	Stiff dark gray, light gray and tan clay, slightly silty	25	97	55	18	37				2.68	
	2-4	Plastic dark gray, gray and tan clay with ferrous nodules	31	88								1.0×10^{-8}
	6-8	Soft dark gray clay with roots, slightly silty	30	88	57	18	39				2.66	
	8-10	Plastic dark gray clay with roots, slightly silty	27	98								5.9×10^{-9}
	14-16	Stiff light gray and tan clay with ferrous and calcareous nodules, slightly silty	22	103	52	19	33				2.66	
	18-20	Stiff tan and light gray clay with calcareous nodules, slickensided	24	97								$4.- \times 10^{-7}$
	23-25	Stiff tan and light gray clay, slickensided, fragmented	32	93	76	21	55				2.66	
	28-30	Very stiff tan and light gray clay with calcareous nodules, slickensided	24	101	65	19	46				2.70	
	33-35	Stiff tan and light gray clay, slickensided	33	89	79	21	58				2.68	
	38-40	Stiff tan and light gray clay, slickensided, fragmented	30	92	85	23	62				2.62	

CHEMICAL ANALYSIS

Sample	Chloride, mg/kg
Boring No. 1	
2 - 4	559
4 - 6	976
10 - 12	479
18 - 20	622
Boring No. 2	
0 - 2	109
4 - 6	1026
12 - 14	111
18 - 20	37.5
Boring No. 3	
2 - 4	762
6 - 8	784
10 - 12	369
18 - 20	92.2

LOG OF BORING -1

PROJECT: Holding Ponds, Euclid Plant, Crosby, Texas
Project No. 81-250

DATE: 8/25/81 TYPE: LOCATION: See Boring Plan

▼ WATER | SAMPLE | STANDARD PENETRATION

DEPTH, FEET	SYMBOL	SAMPLES	BLOWS PER FT	DESCRIPTION
				SURFACE ELEVATION: Existing Grade
0				Fill: Hard dark gray clay - becoming tan sandy clay at 1 foot - becoming gray clay with sand seams and calcareous nodules at 2 feet
5				Plastic dark gray silty clay
10				Stiff tan and gray clay, very calcareous
15				Stiff tan and light gray silty clay ▼
20				
25				
30				
35				- without silt or calcareous nodules below 33 feet
40				Boring Terminated at 40 feet

SOUTHWESTERN LABORATORIE

LOG OF BORING B-2

PROJECT: Holding Ponds, Euclid Plant, Crosby, Texas
Project No. 81-250

DATE: 8/25/81 TYPE: LOCATION See Boring Plan

▼ WATER ▮ SAMPLE ⊠ STANDARD PENETRATION

DEPTH, FEET	SYMBOL	SAMPLES	BLOWS PER FT.	DESCRIPTION
0				SURFACE ELEVATION: Existing Grade
				Fill: Hard tan sandy silt - becoming stiff gray clay at 2 feet
5				Stiff gray silty clay
10				Stiff gray clay - color change to gray and tan with ferrous and calcareous nodules at 12 feet
15				Stiff tan and light gray silty clay ▼
20				Very stiff tan and light gray clay, slickensided
25				
30				
35				
40				Boring Terminated at 40 feet

SOUTHWESTERN LABORATORIES

LOG OF BORIN 3-3

PROJECT: Holding Ponds, Euclid Plant, Crosby, Texan
Project No. 81-250

DATE: 8/25/81 TYPE: LOCATION: See Boring Plan

▼ WATER ▮ SAMPLE ⊠ STANDARD PENETRATION

DEPTH, FEET	SYMBOL	SAMPLES	BLOWS PER FT.	DESCRIPTION
0				SURFACE ELEVATION: Existing Grade
				Fill: Stiff dark gray clay - becoming plastic at 2 feet
5				
10				Plastic dark gray clay - color change to gray and tan 12 feet
15				Stiff tan and light gray clay with calcareous nodules - with sand layer at 16 to 18 feet
20				
25				▼ Very stiff brown clay, slickensided
30				
35				
40				Boring Terminated at 40 feet

Industrial Solid Waste Disposal TSD Facility Review
District No. 7

Ground Water Monitoring (gm):
Required
Not Required
Comments:

Texas Permit/Reg. No.
EPA I.D. No. TXD
Part "A" Application
State No.
Fed. 3510 Yes ✓ No

Site Operator Information:

Name of Company
Site Address
Interim Status: Yes No Comments:
Hazardous Facilities (circle): Landfill , Landfarm , Surface Impoundment , Incin. , Tank , Waste Pile , Containers ✓

Type of Industry

Indicate below classes of waste managed (Hazardous-H, Class I nonhazardous-NH, Class II-III)

Generator Transporter Small Quantity Generator

Treatment Disposal Storage ; 90 Day Exemption

Site Information (T.S.D. facilities only)

1. Are facilities indicated on Registration? Yes No ; Part "A": Yes No
2. Describe waste (Haz) in gm fac.
3. Closed or abandoned facilities

Inspection Information (most recent compliance monitoring inspection):

1. Inspector's Name
2. Inspection Date
3. Inspection Results: Site for which gm (has) or (should have) been installed:

a. Quarterly reports submitted: Yes No
b. Annual reports: Yes No
c. Analyzed for drinking water stds: Yes No
d. Analyzed for ground water quality par: Yes No
e. Analyzed for ground water cont par: Yes No

Authentication of this review: Signed Date

Compliant with all other criteria. Assign priority for groundwater monitoring. [illegible] 6/27/83

OPEN DUMP INVENTORY FACILITY EVALUATION SUMMARY

I. Instructions

1. Prior to inspection, review registration file for general information.
2. During inspection indicate "N/A" at the end of any question not applicable to existing conditions.
3. Indicate "Unknown" if a pertinent question cannot be comfortably answered.
4. Relevant notations are encouraged but not required.
5. Consult the EPA Classification Guidance Manual (blue notebook) to clarify unclear questions.
6. After inspection, review file to complete form as necessary. Any discrepancy between information in file and existing conditions should be noted on this form.

II. General Company Information

A. Registration/Permit No. 30458

B. Company Name and Mailing Address

Name Pennwalt Corp.

Street/Road P.O. Drawer 810

City, State, Zip Code Crosby, TX 77532

County Harris

C. Plant Location

Street/Road 18000 Crosby-Eastgate Road

City, State, Zip Code Crosby, TX 77532

County Harris

Site Coordinates: Latitude 29° 51'·00"

Longitude 95° 01' 30"

D. Plant Manager/Operator

Name William L. Conally

Title Plant Manager

Telephone # (713) 328-3561

III. General Facility Information

A. Registration/Permit No. 30458

B. Sequence No. 01 Type of Facility (landfill, lagoon, etc.) Lagoon/Pon

C. Facility Manager/Operator (if different from II.D.)

Name Same as II.D.

Title

Telephone #

D. Surface Area of Facility 1.8 acres

E. Capacity of Facility 25,000 cubic yds.

F. Classification of waste disposed I

G. Description of wastes being managed at the facility.
(Including waste sequence number from Notice of Registration)
Waste No. 001, process wastewater, and Waste No. 007, cyanide-bearin
waste (cyanide is destroyed before the waste is discharged into the
lagoon) are discharged into Facility No. 01, a lagoon/pond. The pon
is periodically taken out of service and the supernatant decant
Fly ash is added to the settled sludge, and the mixture is compac
A clay liner is placed on top of the compacted sludge prior to further use.

H. Is facility used for disposal of wastes above grade? no

I. Date facility opened 1970

J. Status of facility: active (X)

inactive ( ) effective date

closed ( ) effective date

K. Has facility been deed-recorded? no

L. Other pertinent observations:

Inspected by: Philip S. Liang

Date Inspected: 12/17/82

Accompanied by:

To Be Completed By TIMR

Chapter

AIR

Criterion Compliance Decision

☐ Complies

☐ Does Not Comply

1. Is open burning of solid wastes practiced at the facility?

☐ YES (Continue to 2)

- ☐ Records of previous open burning
- ☐ Visual observation of open burning
- ☐ Physical evidence of previous open burning

☒ NO (COMPLIES)

- ☒ Facility is a surface impoundment and does not open burn wastes
- ☐ Facility is a landspreading operation and does not open burn wastes
- ☐ Landfill which does not open burn

2. Are residential, commercial, institutional, or industrial solid wastes open burned at the facility?

☐ YES (Does not comply)

- ☐ Records of previous open burning
- ☐ Visual observation of open burning
- ☐ Physical evidence of previous open burning

☐ NO (Continue to 3)

3. Are landclearing debris, diseased trees, debris from emergency clean-up operations, silvicultural and agricultural wastes, or ordnance open burned at the facility?

☐ YES (Continue to 4)

- ☐ Records of previous burning
- ☐ Visual observation of open burning
- ☐ Physical evidence of previous open burning

☐ NO (COMPLIES)

4. Does the facility control air emissions in accordance with the State Implementation Plan (SIP) approved or promulgated by the administrator pursuant to Section 110 of the Clean Air Act?

☐ YES (COMPLIES)

- ☐ Opinion given by State agency managing the SIP
- ☐ Variances or permits under SIP examined
- ☐ Visual observations of open burning comply with SIP

☐ NO (Does not comply)

To Be Completed By TDH
Chapter 2(a)
SAFETY - EXPLOSIVES GASES
Criterion Compliance Decision
☐ Complies
☐ Does not Comply

1. Is methane generated?

☐ YES (Continue to 2)

- ☐ Landfill with organic waste
- ☐ Surface impoundment generating methane

☒ NO (COMPLIES)

- ☐ Landfill with no organic waste
- ☐ Landfill less than one year old
- ☒ Surface impoundment with no organic waste
- ☐ Landspreading operations

2. Is methane prevented from migrating beyond the property boundary or from accumulating in facility structures?

☐ YES (COMPLIES)

- ☐ No adjacent facility structures
- ☐ Facility located on impervious rock
- ☐ Facility located on saturated soil or surrounded by surface water
- ☐ Facility with gas venting or recovery systems
- ☐ Facility with recent monitoring records showing no migration

☐ NO (Does not comply - continue to 3)

3. Do the concentrations of methane, as determined by monitoring, exceed 25 percent of the LEL in facility structures or the LEL at the property boundary?

☐ YES (Does not comply)

☐ NO (COMPLIES)

To be Completed by [illegible]
Chapter [illegible]
SAFETY - FIRES
Criterion Compliance Decision
☐ Complies
☐ Does Not Comply

1. Does the facility have the potential for fire occurrence?

☐ YES (Continue to 2)

☒ NO (COMPLIES)

☒ Facility receives only nonflammable, noncombustible wastes
☐ Other ______________________________

2. Is periodic cover material applied so as to reduce the risk of fire?

☐ YES (COMPLIES)

☐ The facility applies and compacts cover over combustible solid waste at the end of the operating day
☐ The facility applies and compacts cover at least once every 24 hours
☐ The facility incorporates all waste into the soil at the end of the operating day

☐ NO (Continue to 3)

3. Does the facility have adequate operating procedures to control fires should they occur?

☐ YES (COMPLIES)

☐ Landfill minimizes fire hazards by proper operating procedures:

___ High frequency of spreading and compacting all combustible wastes
___ Waste materials with high fire potential are unloaded a safe distance from the working face
___ Unloading of wastes adequately supervised
___ Hot or burning loads are extinguished with water or soil before incorporating into the fill
___ Earth moving vehicles are located near the working face
___ Water supply under sufficient pressure is available at the working face
___ Fire extinguishers present on all equipment and buildings
___ Arrangements are established with local fire fighting departments
___ On-site availability of heavy equipment to extinguish fires
___ Firebreaks, fire lanes are present

(The following answer from file review)

___ Previous inspections and reports indicate no problem
___ Permit conditions are being followed (for a fire protection plan)
___ No complaints have been made
___ Records of local fire department indicate no citations have been given

Chapter 4(I)
SAFETY RULES
(Continued)

☐ Surface impoundment minimizes fire hazards by proper handling and storage of liquid wastes:

- ☐ Wastes are mixed to reduce flammability
- ☐ Suitable fire extinguishing equipment is present
- ☐ Established arrangements with local fire department or trained on-site personnel
- ☐ Wastes can be rapidly drained or waste flow can be controlled
- ☐ Waste can be isolated
- ☐ Impoundment is readily accessible by fire-fighting equipment

☐ Landspreading facility minimizes fire hazards by proper operating procedures:

- ☐ Suitable fire-fighting equipment is available
- ☐ Established arrangements with local fire department
- ☐ Facility is readily accessible by firefighting equipment

☐ (iii) (Does not comply)

To Be Complied By TDEP
Chapter 2(c)
SUBJECT - BIRD HAZARDS TO AIRCRAFT
Criterion Compliance Decision
☐ Complies
☐ Does Not Comply

1. Does the facility receive putrescible waste?

☐ YES (Continue to 2)

- ☐ Food waste
- ☐ Sewage sludge, septic tank pumpings
- ☐ Animal manures
- ☐ Animal carcasses
- ☐ Others

☒ NO (COMPLIES)

2. Is the disposal facility within the specified distances of a public-use airport?

☐ YES (Continue to 3)

- ☐ 10,000 feet of any airport runway used by turbojet aircraft
- ☐ 5,000 feet of any airport runway used by piston-type aircraft

☐ NO (COMPLIES)

3. Does the facility pose a bird hazard to aircraft?

☐ YES (Does not comply)

- ☐ Bird populations at the facility are greater than natural populations in the area
- ☐ Facility attracts birds
- ☐ There is a bird hazard at the airport from areas outside the airport
- ☐ Flight patterns of the birds show that birds do fly from the disposal facility to the airport area

☐ NO (COMPLIES)

- ☐ Bird populations at the facility are less than or equal to the natural populations in the area
- ☐ Facility does not attract birds
- ☐ Bird attraction is due to the airport facility
- ☐ Flight patterns of birds show that they do not fly from the disposal facility to the airport

To Be Completed By TDNR
Chapter 2(d)
SAFETY - ACCESS
Criterion Compliance Decision
☐ Complies
☐ Does Not Comply

1. Is access of unauthorized persons into the facility controlled?

☒ YES (COMPLIES)

Natural controls:
- ☐ Trees and hedges
- ☐ Berms and ditches
- ☐ Cliffs and ravines
- ☐ Remoteness

Artificial controls:
- ☒ Gates
- ☒ Fences

☐ NO (Does not comply) (Continue to 2)

2. Are authorized persons controlled within the facility so as to not expose them to potential health and safety hazards?

☐ YES (COMPLIES)

- ☐ Supervision of the unloading area
- ☐ Adequate lighting
- ☐ Posting information and direct signs
- ☐ Prohibition of scavenging
- ☐ Control of salvaging
- ☐ Trafficable roadways
- ☐ Alternate discharge point
- ☐ Other _____

☐ NO (Does not comply)

To Be Completed by HRS
Chapter 3
SURFACE WATER
Criterion Compliance Decision
☐ Complies
☐ Does Not Comply

1. Is there a point source discharge of pollutants to waters of the United States?

☐ Yes (Continue to 2)

___ Facility has a Section 402 (NPDES) permit
___ Landfill with a discharge from a leachate collection system
___ Landfill with a discharge from an on-site leachate treatment system
___ Landfill with a direct discharge of solid waste into waters of the U.S.
___ Surface impoundment with a discharge from a pipe or outfall
___ Surface impoundment with a discharge from an eroded channel
___ Surface impoundment with a discharge from a spillway structure
___ Surface impoundment located in waters of the U.S.
___ Landspreading operations with a discharge from an outfall pipe, or channel that drains the landspreading area where the waste is not incorporated into the soil
___ Landspreading operations located near waters of the U.S. where waste is not applied for enhancement of vegetative growth

☒ No (Go to 2)

2. Is there a discharge of dredged material or fill material to waters of the U.S.?

☐ Yes (Go to 3)

☐ No (Go to 4)

3. Does the facility violate requirements established pursuant to Section 404 of the Clean Water Act?

☐ Yes (Does not comply - continue to 5)

___ 404 permit, but is in violation of that permit
___ Facility is in need of a permit and has not applied for a 404 permit

☒ No (Continue to 4)

___ Facility operates in compliance with its 404 permit
___ Facility has applied for a 404 permit

X Deep well injection

4. Does the facility violate requirements for NPDES permits established pursuant to Section 402 of the Clean Water Act?

☐ Yes (Does not comply)

___ Facility has a 402 permit, but is in violation of that permit
___ Facility has not applied for a 402 permit.

☐ NO (Continue to 5)

___ Facility operates according to 402 permit requirements

5. Is there a nonpoint source discharge from the facility?

☐ YES (Continue to 6)

___ Surface impoundment with spillover, overtopping, or leakage
___ Other _____

☒ NO (Continue to 6)

___ Landfill or land-spreading facility that totally contains runoff or other water
X Other Deep well injection

6. Does the facility cause nonpoint source polluting of the waters of the U.S. that violates applicable legal requirements implementing an areawide or Statewide water quality management plan that has been developed and approved by the Administrator under section 208 of the Clean Water Act, as amended?

☒ NO (COMPLIES)

___ Facility not in an area with an approved 208 plan
___ Facility in an area with an approved 208 plan and complies with all applicable requirements
X No 208 requirements have been placed on the facility

☐ YES (Does not comply)

To Be Completed By TDWR
Chapter 4
GROUND WATER
Criterion Compliance Decision
☐ Complies
☐ Does Not Comply

1. Does ground water contain more than 10,000 mg/l TDS, and is it not being used as a human drinking water source?

☐ YES (COMPLIES)

- ☐ Ground water has more than 10,000 mg/l TDS, TDS = _____ and is not used as a human drinking water source
- ☐ Ground water is not present in usable quantities beneath the site

☒ NO (Continue to 2)

- ☐ Ground water has less than 10,000 mg/l TDS
- ☒ Ground water is being used as a drinking water source
- ☐ Ground water is not being used as a drinking water source

2. Has an underground drinking water source been contaminated by the facility?

☐ YES (Does not comply)

- ☐ Monitoring shows contamination of a drinking water source
- ☐ Contaminating substances and concentrations _____

☒ NO(COMPLIES)

- ☐ Facility does not overlie a drinking water source
- ☒ Monitoring shows no contamination beyond the solid waste boundary (or alternate)

☐ Not determined

Facility does not have monitor wells. DCR

To Be Completed By TDWR
Chapter 5
ENDANGERED SPECIES
Criterion Compliance Decision
☐ Complies
☐ Does Not Comply

1. Is the facility within a critical habitat or an area where endangered or threatened species range?

☒ YES (Continue to 2)

☐ NO (COMPLIES)

2. Has there been an assessment to determine if the facility has destroyed or adversely changed the critical habitat or contributes to the taking of any endangered or threatened species of plants, fish, or wildlife?

☒ YES (Continue)

☐ Facility has passed assessment made by OES or other Federal agency
☐ Facility has an individual 404 Permit with an assessment section
☐ Facility has passed evaluation as a result of settlement made to prevent adverse impact
☐ Recent assessments have indicated comparable situation at facility is not a problem

☐ NO Continue to 3.

3. Does the facilities presence result in the destruction or adverse modification of the critical habitat?

Factors to consider:
Type of critical habitat
Size of critical habitat
Sensitivity of critical habitat to adverse impacts
Critical habitat species characteristics
Proximity of facility to critical habitat
Facility design and operational characteristics

☐ YES (Does Not Comply - Continue to 4)

☐ NO (Continue to 4)

To Be Completed By TDWR
Chapter 5
ENDANGERED SPECIES
(Continued)

4. Does the facility cause or contribute to the taking of any endangered or threatened species of plants, fish, or wildlife?

Factors to consider:
Type of species and species habitat
Species characteristics
Sensitivity of species and species habitat to adverse impacts
Facility size, design, and operational characteristics

Adverse impacts to consider:
Harrassing, harming, pursuing, hunting, wounding, killing, trapping, capturing, or collecting species (direct violation of ESA, does not comply)
Adverse modification or loss of habitat (including air & water pollution)
Infringement on breeding, nesting, and feeding activities
Interference with species movement

☐ YES (does not comply)

☐ NO (COMPLIES)

Endangered species found in Harris County include:
1. Bald Eagle (wintering area)
2. Attwater's Prairie Chicken
3. American Alligator

To Be Completed by TDWR
Chapter 6(a)
DISEASE VECTORS
Criterion Compliance Decision
☐ Complies
☐ Does Not Comply

1. Is the facility a potential breeding ground for rodents, flies, or mosquitoes which poses a threat to public health?

☐ YES (Continue to 2)

☒ NO (COMPLIES)

2. Does the facility minimize the on-site population of disease vectors through the periodic application of cover material or other techniques as appropriate so as to protect public health?

☐ YES (COMPLIES)

☐ Facility applies daily cover
Facility practices other techniques:
- ☐ Repellents
- ☐ Insecticides or rodenticides
- ☐ Composting or processing
- ☐ Predatory or reproductive control
- ☐ Other _____

☐ NO (Does not comply)

Comment _____
_____
_____

To Be Completed By [illegible]

Chapter 6(B)

SEWAGE SLUDGE AND SEPTIC TANK PUMPINGS

Criterion Compliance Decision

☐ Complies

☐ Does Not Comply

1. Are sewage sludge or septic tank pumpings applied to the surface of the land or incorporated into the soil?

☐ YES (Continue to 2)

☒ NO (COMPLIES)

☐ Facility is a trenching or burial operation

☒ Facility receives no sewage sludge or septic tank pumpings.

2. Are crops planted for human consumption within 18 months after application of waste?

☐ YES (Continue to 3)

☐ Crops grown at time of inventory are for human consumption
☐ Information from operating plan
☐ Past usage or crops in the vicinity
☐ Information from facility owner/operator

☐ NO (Continue to 5)

3. Does the waste contact the food portion of the crop?

☐ YES (Continue to 4)

☐ Direct application or rainfall splash
☐ Crops with food portion close to the ground
☐ Taller crops that receive application early in growing stage

☐ NO (Continue to 6)

4. Is the waste treated by a process to further reduce pathogens?

☐ YES (COMPLIES)

☐ Verification of acceptable process from appropriate source
Source used: _____

☐ NO (Does not comply - continue to 5)

☐ Verification cannot be made

To Be Completed By TDWR
Chapter 7
APPLICATION TO BE USED FOR THE
DESTRUCTION OF FOOD CHAIN CROPS
Criterion Compliance Decision
☐ Complies
☐ Does Not Comply

1. Is solid waste injected, spread or piled into land used for food chain crops?

☐ YES (Continue to 2)

☒ NO (SKIP LINES)

___ The land is not used for the production of food chain crops
_X_ Facility is a surface impoundment
___ Facility is a landfill

2. Is the cadmium concentration in the waste less than 2 mg/kg?

mg/kg - Cadmium concentration _____

☐ YES (Continue to 4)

☐ NO (Continue to 3)

3. Is the pH of the waste/soil mixture 6.5 or greater at the time of application?

☐ YES (Continue to 4)

☐ NO (Does not apply)

4. Is the annual application rate of cadmium in excess of 2 kg/ha for food chain crops used for human consumption?

kg/ha/yr Cadmium application rate _____ (see Figure 7-3)

☐ YES (Does not comply)

☐ NO (Continue to 5)

5. If waste is applied to land used for the production of tobacco, leafy vegetables or root crops for human consumption, is the cadmium loading rate less than 0.5 kg/ha/yr?

Crop grown _____

☐ YES (Continue to 6)

___ Land is not used for production of these crops
___ Cadmium loading is less than .5 kg/ha/yr

☐ NO (Does not comply)

To Be Completed By TDWR
Chapter 8
FLOODPLAINS
Criterion Compliance Decision
☐ Complies
☐ Does Not Comply

1. Is the solid waste applied to the land surface and incorporated into the soil at such a frequency that it is not subject to washout?

☐ YES (Complies)

- ☐ Waste incorporated into the soil in accordance with requirements of Section 257.3-5
- ☐ Waste used as a soil conditioner or fertilizer
- ☐ Disposal area being used (or will be used next season) for vegetation

☒ NO (Continue to 2)

2. Is the facility located in the 100-year floodplain?

☐ YES (Continue to 3) (Provide copy of floodplain map with unit location)

- ☐ Stated in permit or operation applications
- ☐ State floodplain designation
- ☐ Federal floodplain designation: Agency_____
- ☐ Interpolation between two known points in the 100-year floodplain
- ☐ Computations of flood flow and flood level

☒ NO (Complies) Floodplain map is attached

3. Does the facility restrict the flow of the base flood or reduce the temporary water storage capacity so as to pose a hazard to human life, wildlife, or land or water resources?

Special cases:

Facility located in a state where equivalent review or permit procedures have considered flood alteration impacts
Facility has a 404 permit with an equivalent flood hazard assessment section and is in compliance with the permit
Facility has filled floodplain or is diked up to or above base flood level
Facility is below floodplain grade

Facility located in a floodplain where the channel is diked to contain the base flood
Facility increases base flood level more than 1.0 foot

[illegible]

FL[illegible]INS

(Con[illegible]ed)

Fact[illegible]rs considered in flood hazard p[illegible]tial assessment:

- Base Flood characteristics
- Floodplain topography
- Floodplain hydrogeology
- Facility characteristics
- Natural resources in and adjacent to the floodplain
- Land use in and adjacent to the floodplain

☐ YES (Does not comply - continue [illegible])

☐ NO (Continue to 4)

4. Is the facility protected from washout by the base flood so as not to pose a hazard to human life, wildlife, or land or water resources?

Factors considered for washout protection:

Types and Efficiency Protection:

- ___ Dike or levee
- ___ [illegible]
- ___ Flood[illegible]
- ___ Vegetative cover
- ___ Riprap
- ___ Diversion of surface flow
- ___ Change in [illegible] matrix
- ___ Flood flow velocity
- ___ Other
- ___ None

☐ YES (Complies)

- ___ State washout assessment or [illegible] permit
- ___ Site analysis of washout protection

☐ NO (Does not comply)

- ___ Washout by flood of lesser magnitude than the [illegible]-year flood
- ___ Site analysis of washout protection

Petrolite Corp.
50458

TDWR OPEN DUMP INVENTORY

SUPPLEMENTARY FACILITY EVALUATION

1. Hazardous Waste Information:

EPA ID No. TXD 043750512

Generator	Yes X	No ___
Small-Quantity Generator	Yes ___	No X
Transporter	Yes X	No ___

If yes, state method(s) 1. company-owned truck, 2. contractor

Treater, Storer, Disposer	Yes ___	No X

2. Verification of TDWR Solid Waste Registration

a. Determine accuracy and completeness of entire computerized registration.

General Information – state any inaccuracies or additions:

Generating site location should be:
18000 Crosby-Eastgate Road
Crosby, TX 77532

b. Description of Waste Generating Activities – list any inaccuracies or additional SIC code(s) (if known) and manufacturing processes:

Waste No. 002 is incorrectly listed as phosphoric acid (H_3PO_4). It should be phosphorous acid (H_3PO_3).

c. Solid Waste Generation Summary

i. State any inaccuracies:

Waste No. 005, amine solids, is no longer generated.

ii. Are any additional wastes generated? If so, complete information in this section for each additional waste.

No.

d. Solid Waste Management Facilities Summary

i. State any inaccuracies: 1. Waste No. 002, phosphorous acid, is now sold as a by-product.; 2. Facility No. 03, a storage tank, stores Wastes Nos. 002, 003, + 007.; 3. Facility No. 04, drum storage area, stores Waste 004.; 4. Facility No. 05, an impoundment basin, stores Waste No. 001.

ii. Are any facilities not listed in this section? If so, complete information in Part III - General Facility Information of the ODI Evaluation Summary-for additional facilities.

The single lagoon/pond listed on this registration is actually four separate ponds.

TDWR OPEN DUMP INVENTORY

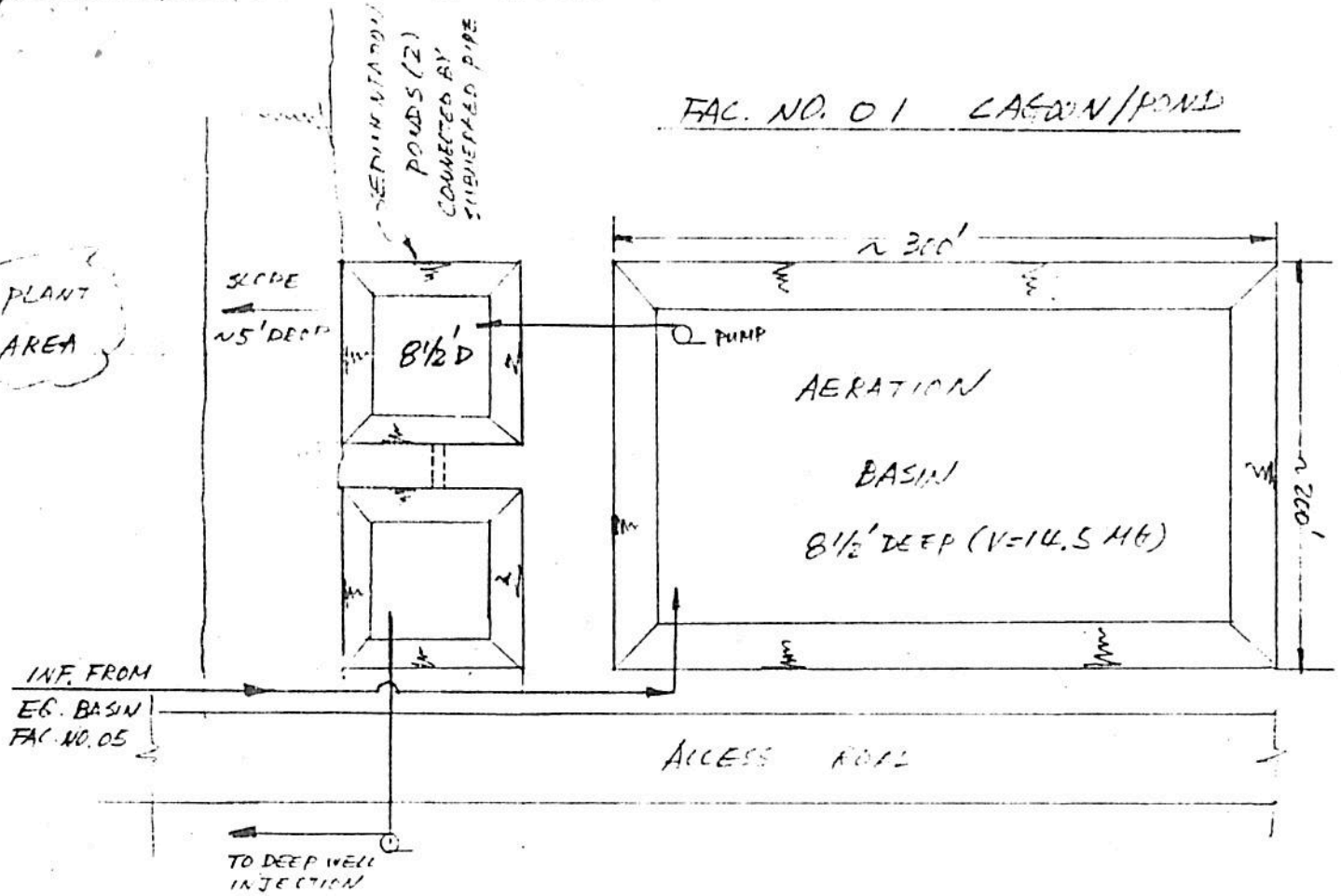
Inspector's Comments
Pennwalt Corp.
TDWR Req. No. 30458
Inspected 12/17/82

An inspection of Pennwalt Corporation's solid waste management facility No. 01, a lagoon/pond, was conducted on December 17, 1982 by Philip S. Liang of Engineering-Science as part of TDWR's Open Dump Inventory program.

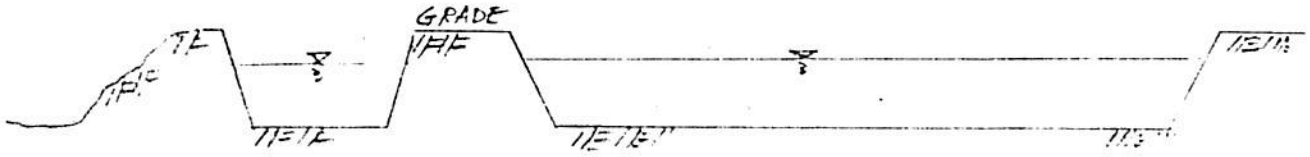
The facility registered as No. 01, a lagoon/pond, actually consists of four separate ponds, including one surge basin, one aeration basin, and two settling ponds. Since the capacity of the aeration basin has proven to be sufficient to accommodate even heavy loading rates, the surge basin has been taken out of operation. The two settling ponds are hydraulically interconnected.

Waste No. 001, process wastewater, is discharged to the equalization basin (Facility No. 05). Waste No. 007, cyanide-bearing waste, is discharged to a storage tank (Facility No. 03) in which the cyanide is treated by chlorination. The two streams are then combined and transferred to the aeration basin. The stream is then pumped to the settling ponds, in which the solids settle out. The supernatant is then sent to deep well injection.

As each pond fills with sludge, it is taken out of service and the supernatant is pumped off. The sludge is mixed with fly ash and then compacted, and a new clay liner is placed on top of the compacted mixture. This occurs approximately once every two years for each pond.



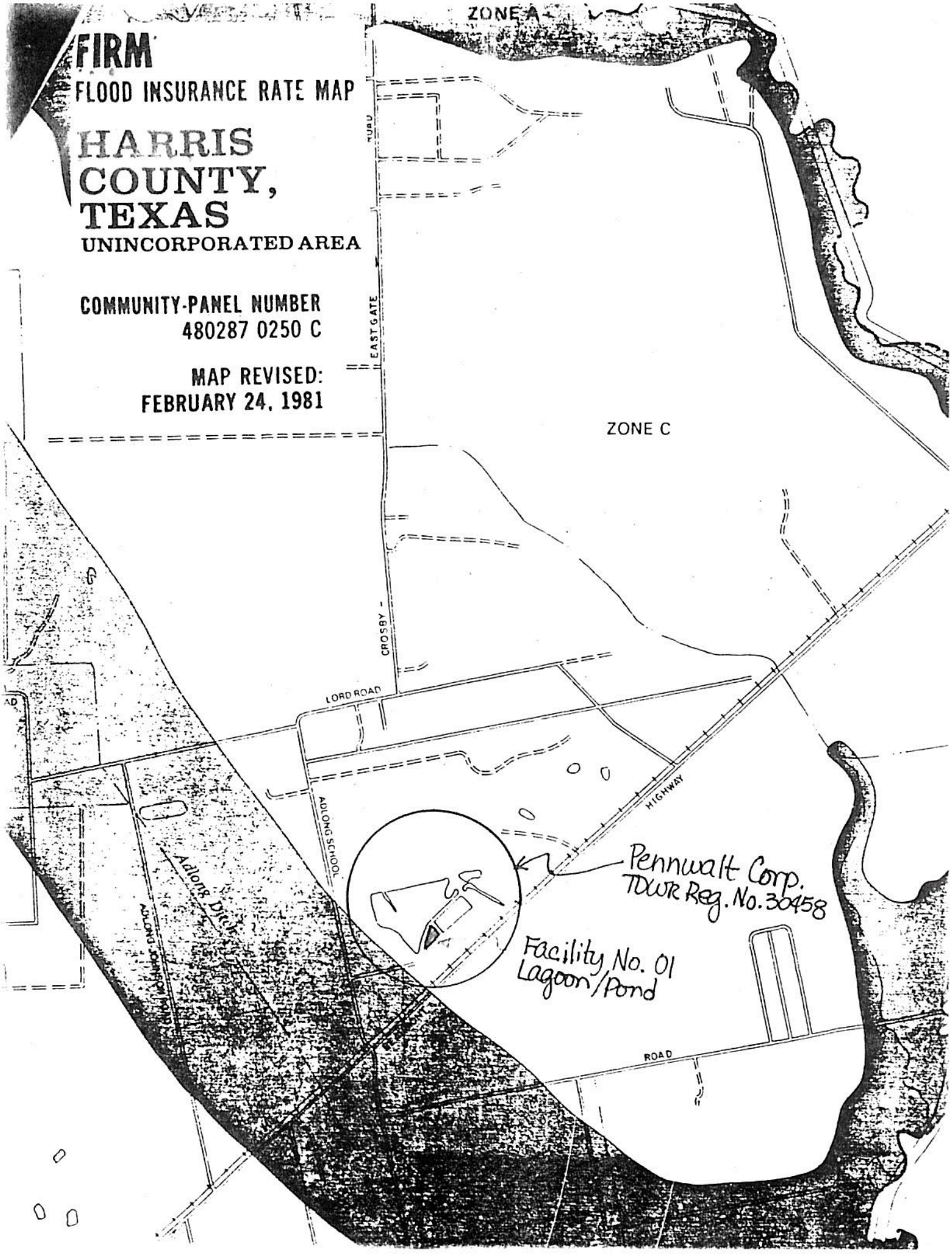
PLAN VIEW
PENNWALT CORP. (30458)
N.T.S.



CROSS SECTION
N.T.S.

ENGINEERING-SCIENCE 16915 EL CAMINO REAL HOUSTON, TEXAS 77058 (713) 488-2444	PROJECT TDWR OPEN DUMP JOB NO 2629	DATE 12/17/92	SHT
	DETAIL INSPECTION	BY LSL	OF


ROAD
LORD
SOUTHERN
PACIFIC
Water Tank
BM
57'30"
HARVEY
ROAD
PIPELINE
ADLONG
PIPELINE
DITCH
BOHEMIAN
ROAD
90


FIRM
FLOOD INSURANCE RATE MAP
HARRIS COUNTY, TEXAS
UNINCORPORATED AREA
COMMUNITY-PANEL NUMBER
480287 0250 C
MAP REVISED:
FEBRUARY 24, 1981
ZONE A
ZONE C
EASTGATE
CROSBY -
LORD ROAD
ADLONG SCHOOL
HIGHWAY
Adlong Ditch
ADLONG JOHNSON ROAD
ROAD
Pennwalt Corp.
TDWR Reg. No. 30458
Facility No. 01
Lagoon/Pond

Texas Natural Resource Conservation Commission
Austin, Texas

Permit To Conduct
Class I Underground Injection
under provisions of Chapters 26 & 27
Texas Water Code

Permit WDW-122

This permit supersedes and replaces Permit No. WDW-122 issued September 12, 1983

I. Permittee:

Elf Atochem North America, Inc.
18000 Crosby Eastgate Road
Crosby, Texas 77532

II. Type of Permit: Initial____ Renewal____ Amended_X_
Commercial _____Noncommercial__X__
Hazardous_____Nonhazardous__X___

III. Nature of Business:

Industrial Waste Disposal

IV. General Description and Location of Injection Activity:

The disposal well is used to dispose of nonhazardous petrochemical waste generated by the permittee's facility near Crosby, Texas. The well is located approximately 3,874 feet southeast of the northwest line and 532 feet northeast of the southwest line of the M. Duncan Survey, Abstract 17, three miles northeast of Crosby, Harris County, Texas, Latitude 29°56'57" North and Longitude 95°01'21" West. Injection is

CONTINUED on Pages 2 through 8

The permittee is authorized to conduct injection in accordance with limitations, requirements, and other conditions set forth herein. This permit is granted subject to the rules and orders of the Commission and the laws of the State of Texas. This permit is valid until the Commission action on the application renewal dated May 27, 1993, is final (30 TAC 305.63(4), or until amended or revoked by the Commission.

ISSUED DATE: AUG 05 1994

ATTEST: Gloria A. Vasquez

Anthony C. Gryder
For The Commission

into the Frio and Upper Vicksburg Formation sands between 4,600 and 6,700 feet.

V. Character of the Waste Streams

A. The industrial waste so permitted to be injected shall be as described in the permit application, consisting of the following waste streams:

1. Wastes generated during closure of the well and associated facilities that are compatible with permitted waste and the reservoir;

2. Peroxyester Process wastewater;

3. Azo Process wastewater;

4. Non-hazardous process waste generated in the Multi-Purpose Unit;

5. Rainwater, runoff and vessel washdown fluid from within containment areas.

VI. Injection Rates and Volumes

A. The maximum rate of injection shall not exceed 150 gallons per minute.

B. The combined volume of wastewater injected in this well (WDW-122) and in WDW-230 shall not exceed 6,696,000 gallons per month, and 78,840,000 gallons annually.

VII. Operating Parameters

A. The operating surface injection pressure shall not exceed 1200 psig.

B. The tubing - long string casing annulus shall be filled with a fluid containing a corrosion inhibitor. A positive pressure with a differential from injection pressure of at least 100 psi shall be maintained on the annulus to detect well malfunctions.

C. Pressure gauges shall be installed and maintained in proper operating condition at all times on the injection tubing and on the tubing - long string casing annulus at the wellhead.

D. Continuous recording devices shall be installed and maintained in proper operating conditions at all times to record injection tubing pressure, injection flow rate,

injection volumes and tubing-long string casing annulus pressure. The instruments shall be housed in weatherproof enclosures.

E. Mechanical integrity shall be demonstrated in accordance with Commission rules by January 6, 1984, and at least once every five years thereafter for the life of the well.

VIII. Reporting Requirements

Operating Reports

1. The permittee shall file within twenty (20) days after the last day of March, June, September and December of each year a Report of Injection Operation on forms supplied by the Executive Director.

2. The permittee shall file annually, with the December operating report, an acceptable report of the pressure effects of the well upon its injection zone, including a direct measurement of bottom-hole pressure, or a calculation of bottom-hole pressure using the specific gravity of fluid in the wellbore and the static fluid level. To the extent such information is reasonably available, the report shall also include:

   a. Locations of newly constructed or newly discovered wells within the Area of Review if such wells were not included in the Technical Report accompanying the permit application or in later reports;

   b. A tabulation of data for all newly constructed or newly discovered wells within 1/2 mile of the injection well and for all such wells within the Area of Review that penetrate to within 300 feet of the top of the injection zone as required by 30 TAC Section 305.65(c)(3).

3. The permittee shall notify the Austin Office of the Commission within twenty-four (24) hours of any change in monitoring parameters which could reasonably be attributed to a leak or other failure in well equipment.

4. The permittee shall submit within forty-five (45) days after completion of the following tests, a report including both data and interpretation of the results of:

   a. Periodic tests of mechanical integrity;

b. Any other test of the injection well or injection zone if required by the Executive Director.

IX. Well Workovers

A. The permittee shall notify the Austin Office of the Commission of any workover or corrective maintenance operation:

1. For major workovers or corrective maintenance operations which involve removal of injection tubing the permittee shall obtain approval of the Executive Director prior to beginning work. Notification shall be in writing and shall include plans for the proposed work. The Executive Director may grant an exception to prior written notification when immediate action is required.

2. For other workovers or corrective maintenance operations the permittee shall notify the Austin office of the Commission and obtain approval before beginning work.

B. Within sixty (60) days after completion of any workover, a complete report shall be filed with the Executive Director including the reason for the well workover and details of the work performed.

C. During major workovers, the bottom hole pressure shall be determined either by direct measurement by conventional techniques or by calculation using specific gravity of fluid in the well bore and the static fluid level.

D. All phases of any workover shall be supervised by a person knowledgeable and experienced in practical well engineering, who is familiar with the special conditions and requirements of injection well operations.

E. A mechanical integrity test shall be performed following a major workover or a perforation of the injection zone.

X. Plugging

A. Upon final abandonment the well shall be plugged in accordance with plans and specifications contained in the application after mechanical integrity of the well is verified by a logging program approved by the Executive Director. Any proposed changes to plans and specifications must be certified in writing by the Executive Director that said changes provide protection

equivalent to or greater than the original design criteria and standards.

B. The permittee shall notify the Austin Office of the Commission in writing ninety (90) days prior to commencing plugging operations. Within thirty (30) days of completion of plugging operations the permittee shall submit to the Austin Office of the Commission a plugging report on forms provided by the Commission.

C. The permittee shall secure and maintain in full force and effect at all times a performance bond or other form of financial security, in a form acceptable to the Executive Director of the TNRCC, to provide for proper plugging and abandonment of the permitted waste disposal well. The bond or other form of financial security shall be in the amount of $93,000.00. The amount of financial security may, at the discretion of the TNRCC, be altered at a future date to provide for adequate plugging subject to prevailing general economic conditions. This permit does not authorize underground injection of fluid unless the permittee has in effect a performance bond or other form of financial security acceptable to the Executive Director in the above amount.

XI. Monitoring and Record Keeping

A. The permittee shall keep complete and accurate records of:

1. All monitoring required in the permit, including:

   a. Continuous records of surface injection pressures;
   b. Continuous records of the tubing-long string annulus pressures;
   c. Continuous records of injection flow rates;
   d. Monthly total volume of injected fluids.

2. All periodic well tests, including but not limited to:

   a. Injection fluid analysis;
   b. Bottom hole pressure readings;
   c. Mechanical integrity.

3. All shut-in periods and times that emergency measures were used for handling waste.

4. All correspondence concerning the injection well and related facilities, including correspondence from outside consultants.

B. All records shall be made available for review upon request from a representative of the Commission.

C. The permittee shall retain, for a period of five (5) years following abandonment, records of all information resulting from any monitoring activities or records required by this permit.

XII. Other Requirements

A. A sign shall be posted at the well site which shall show the name of the company, company well number and permit number. The sign and identification shall be in the English language, clearly legible and shall be in numbers and letters at least one (1) inch high.

B. An all-weather road shall be installed and maintained to allow access to the disposal well and related facilities.

C. The wellhead and associated facilities shall be painted and maintained in good working order without leaks.

D. The following rules are incorporated in this permit by reference:

1. Standard Permit Conditions, 30 TAC Section 305.125;
2. Signatories to Reports, 30 TAC Section 305.128;
3. Record Retention, 30 TAC Section 305.157.

E. No discharge of wastes, other than those waste streams specified in Paragraph V. of this permit injected into Frio and Upper Vicksburg sands in the subsurface interval between approximately 4,600 and 6,700 feet, is authorized by this permit from this facility into water in the state.

XIII. Preinjection Facilities

A. Preinjection facilities shall consist of the well-associated surface facilities within the Elf Atochem plant site including a concrete-lined oxidation pond, four fiberglass mixing tanks, pumps, filters, piping, and related appurtenances, and carbon steel and polyvinylchloride flow lines.

B. All well-associated surface facilities (including loading and unloading) shall be diked to totally contain spillage

and rainfall. The areas within the dike of the surface facilities shall be lined with an impervious material or reinforced concrete and drained for collection and routing to the wastewater holding facilities.

C. All wastewater preinjection holding facilities shall be above-ground and consist of fiberglass tankage with adequate design strength and compatible with the wastewater. Any tank leak shall be repaired immediately and a report filed with the Executive Director within ten (10) days after the leak is detected describing the cause of the problem and the action taken.

D. Emergency storage facilities shall be used only during periods when the injection well is out of service and shall consist of the earthen "south" pond and the earthen settling basin. These ponds are underlain with twenty-eight (28) feet of clay and have a total capacity of six (6) million gallons.

E. The earthen "south" pond and the earthen settling basin shall be depleted of their present contents within two (2) years of the date of issuance of this permit. Immediately thereafter the ponds shall be used for emergency storage during well maintenance or workover and shall not be used for any other purpose. Within thirty (30) days after the well is placed back in operation, any fluids must be evacuated from the ponds. A minimum of two (2) feet of freeboard shall be maintained at all times, including emergency periods. An easily readable freeboard gauge shall be installed and maintained for each pond. The TNRCC Region 12 Office shall be notified immediately when the freeboard decreases to less than two feet.

F. Pond dikes shall be examined weekly for structural adequacy. Breaches of the dikes shall be reported to the Executive Director and immediately repaired.

G. The authorized preinjection facilities are limited to those described in the application and related plans and specifications. Prior to constructing or operating any facility component in a manner which differs from the related plans and specifications, or which will expand the facility capacity within the terms of this permit, the permittee is required to:

1. Notify the TNRCC and submit plans and specifications for the proposed modification or expansion;

2. Receive written authorization of the Executive Director prior to beginning work. The Executive Director may grant an exception to the prior written notification when immediate action is required;

3. Have facility modifications supervised by a person knowledgeable and experienced in the construction of well-associated preinjection facilities.

H. Any proposed facility modification, addition of components, or expansion in capacity which has not been addressed by the terms of this permit must be authorized in accordance with the requirements of 30 TAC Sections 305.61-69 of the Rules of the Commission relating to permit amendments.

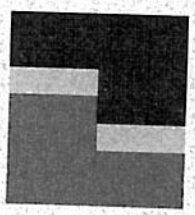
I. All solid waste arising from the pretreatment facilities shall be disposed of in accordance with Commission rules for Solid Waste Management.

J. All facilities (including but not limited to surface impoundments and tanks) which store or treat hazardous waste are considered to be hazardous waste facilities and the permittee shall conform to all applicable requirements of 30 TAC Section 335 of the Rules of the Commission relating to hazardous industrial solid waste.

PERMIT MODIFICATION FOR INDUSTRIAL AND HAZARDOUS WASTE STORAGE/PROCESSING/DISPOSAL FACILITY

ELF ATOCHEM NORTH AMERICA, INC.
HOUSTON, TEXAS PLANT

ENVIRONMENTAL PERMITTING & COMPLIANCE, INC



APPENDIX D

COMPLIANCE HISTORY AND APPLICANT EXPERIENCE

ELF ATOCHEM NORTH AMERICA, INC.
HOUSTON PLANT

Revised: 04/94

FACILITY NAME: Elf Atochem North America, Inc.
Houston, Texas Plant

COMPLIANCE HISTORY
MARCH 1988 - MAY 1993

Date of Document	Title of Document	Name of Enforcing Agency	Alleged Violations or Evidence of Indebtedness	Elf Atochem Action and/or Response
03/08/88	Notice of Violation	Harris County Pollution Control Department	Alleged insufficient chlorine at sewage treatment outfall.	Appropriate response provided. No further agency action.
10/31/88	Notice of Violation	Texas Water Commission	Alleged seven items of non-compliance with hazardous waste rules. These items consist of evidence of spills and unauthorized discharges, discrepancies in the Notice of Registration, non-submission of required monthly reports, failure to label hazardous waste tanks, failure to receive tank assessments of new hazardous waste tanks, failure to provide secondary containment for hazardous waste tank, failure to obtain certification for hazardous waste tanks.	Appropriate response provided. No further agency action.
03/01/89	Notice of Violation	Harris County Pollution Control Department	Alleged chemical oxygen demand grab sample excursion for outfall 001.	Appropriate response provided. No further agency action.
11/89	Notice of Violations	U.S. Environmental Protection Agency	Alleged violations of NPDES permit of Chemical Oxygen Demand excursions.	Appropriate response provided. No further agency action.

FACILITY NAME: Elf Atochem North America, Inc.
Houston, Texas Plant

COMPLIANCE HISTORY
MARCH 1988 - MAY 1993

Date of Document	Title of Document	Name of Enforcing Agency	Alleged Violations or Evidence of Indebtedness	Elf Atochem Action and/or Response
12/06/89	Notice of Violation	Harris County Pollution Control Department	Alleged presence of industrial wastewater in the domestic wastewater treatment plant.	Appropriate response provided. No further agency action.
01/03/90	Notice of Violation	Texas Water Commission	Alleged four items of non-compliance with hazardous waste rules. Items include: failure to update Notice of Registration, evidence of spills or unauthorized discharges, failure to conduct integrity assessment on hazardous waste tank, and failure to provide secondary containment for hazardous waste tank that is more than 15 years in age.	Appropriate response provided. No further agency action.
08/20/90	Notice of Violation	Harris County Pollution Control Department	Alleged insufficient chlorine at sewage treatment outfall.	Appropriate response provided. No further agency action.
11/89	Notice of Violations	U.S. Environmental Protection Agency	Alleged violation of NPDES permit of pH excursion.	Appropriate response provided. No further agency action.

FACILITY NAME: Elf Atochem North America, Inc.
Houston, Texas Plant

COMPLIANCE HISTORY
MARCH 1988 - MAY 1993

Date of Document	Title of Document	Name of Enforcing Agency	Alleged Violations or Evidence of Indebtedness	Elf Atochem Action and/or Response
01/31/91 02/12/91- 02/13/91	Notice of Violations	Texas Water Commission	Alleged twelve items of non-compliance with hazardous waste rules.	These items were referred to the U.S. Environmental Protection Agency.
03/91	Notice of Violations	Texas Air Control Board	Plant was cited for alleged exceedances of sulfur dioxide emissions standard at regional monitoring station.	Entered into an agreed board order providing for improvements to the hydrogen sulfide/carbon disulfide 080 manufacturing unit and the sulfur recovery unit (SRU), and payment of a $41,000 administrative penalty.
09/91	Administrative Complaint	U.S. Environmental Protection Agency	A complaint alleged violations of RCRA, including inspections, waste analysis, secondary containment and incinerator operations.	Entered into a Consent Agreement and Final Order with the EPA in May 1992 which required payment of a $900,000 penalty and demonstrating compliance with provisions of RCRA permit.

FACILITY NAME: Elf Atochem North America, Inc.
Houston, Texas Plant

COMPLIANCE HISTORY
MARCH 1988 - MAY 1993

Date of Document	Title of Document	Name of Enforcing Agency	Alleged Violations or Evidence of Indebtedness	Elf Atochem Action and/or Response
12/91	Notice of Violations	U.S. Environmental Protection Agency	Alleged violations of NPDES permit during large storm events.	Entered into a consent agreement providing for upgraded equipment and stormwater management facilities, and to provide for off-site management of stormwater, if necessary. Obligations under consent agreement have be satisfied.
01/27/92	Notice of Violation	Texas Water Commission	Alleged three items of non-compliance with hazardous waste rules. These items are as follows: feed rate excursion, combustion temperature excursion, ceasing to operate during excursions of incinerator permit conditions.	All three items were resolved. No further agency action.
09/30/92	Notice of Violation	Harris County Pollution Control Department	Alleged chemical oxygen demand grab sample excursion for outfall 001.	Appropriate response provided. No further agency action.

FACILITY NAME: Elf Atochem North America, Inc.
Houston, Texas Plant

COMPLIANCE HISTORY
MARCH 1988 - MAY 1993

Date of Document	Title of Document	Name of Enforcing Agency	Alleged Violations or Evidence of Indebtedness	Elf Atochem Action and/or Response
12/31/92-01/22/93	Notice of Violation	Texas Water Commission	Alleged one item of non-compliance with hazardous waste rules. Land ban notification forms lacking proper manifest number.	Appropriate response provided. No further agency action.
05/04/93	Notice of Violation	Harris County Pollution Control Department	Alleged exceedance of chlorine at sewage treatment outfall.	Appropriate response provided.
05/24/93	Notice of Violation	Harris County Pollution Control Department	Alleged exceedance of chlorine at sewage treatment outfall.	Appropriate response provided.